

THE NOBLE TRAIN OF ARTILLERY: A STUDY COMPARISON OF
CURRENT DOCTRINAL CONCEPTS OF THE MISSION
COMMAND PHILOSOPHY IN HISTORY

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General Studies

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ABSTRACT

THE NOBLE TRAIN OF ARTILLERY: A STUDY COMPARISON OF CURRENT DOCTRINAL CONCEPTS OF THE MISSION COMMAND PHILOSOPHY IN HISTORY, by Major Thomas M. Campeau, 125 pages.

In the winter of 1775 and 1776 a logistical movement occurred which altered the tide of war in favor of the young American Continental Army. A bookseller from Boston volunteered to transport almost 60 pieces of artillery from the recently captured Fort Ticonderoga in upstate New York to Boston. This journey would take place in the dead of a New England winter, crossing over 300 miles of varying terrain. General George Washington subsequently utilized these cannons to force the occupying British forces to prematurely evacuate the city of Boston. The Boston bookseller was Henry Knox, who would later become one of Washington's key generals. He displayed several attributes during his expedition which compared directly with modern day US Army Doctrine concerning Mission Command philosophy.

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CHAPTER 1

INTRODUCTION

In the winter of 1775 and 1776 a logistical movement occurred which altered the tide of war in favor of the young American Continental Army. A bookseller from Boston volunteered to transport almost 60 pieces of artillery from the recently captured Fort Ticonderoga in upstate New York to Boston. This journey would take place in the dead of a New England winter crossing over 300 miles of varying terrain. General George Washington subsequently utilized these cannons to force the occupying British forces to prematurely evacuate the city of Boston. The Boston bookseller was Henry Knox who would later become one of Washington's key generals. He displayed several attributes during his expedition which compared directly with modern day US Army Doctrine concerning Mission Command philosophy. He also demonstrated the premises of the Operations Process and agile and adaptive leadership throughout the expedition. Knox also displayed the Mission Command premises which lead to the successful execution of operations. Knox demonstrated the principles of Mission Command philosophy during his operation in 1775 and 1776 to move 58 cannons from Fort Ticonderoga to Boston.

The true purpose of this thesis is to demonstrate how Knox utilized the principles and philosophy of Mission Command during his expedition in 1775 and 1776. This thesis will use direct historical examples taken from Henry Knox's "Noble Train of Artillery" expedition that retrieved and transported 58 cannons from Fort Ticonderoga over 300

miles to Boston.¹ The logistics of transporting these pieces in the dead of winter over small snow covered mountain trails, two major rivers, two lakes, and a minor mountain range in the Appalachian Mountains was no small accomplishment. A cohesive team was built based off of mutual trust which helped Knox accomplish this feat. The expedition would consist of over 40 militiamen, and 90 civilian teamsters responsible for 80 yoked oxen.² The difficulty of this operation mandated decentralized execution. Knox could not be everywhere, so his orders needed to be clear and concise and the execution of the operation decentralized if his unorthodox unit were to achieve success. At its longest length Knox's expedition would stretch over five miles long and be organized into five separate movement serials.³ Knox's leadership helped guide this achievement through bringing this movement at one point from the brink of disaster. Knox would create a shared understanding of the operation with people like his younger brother William and the Northern New York commander Major General Philip Schuyler. Both of these men played essential roles in the accomplishment of this mission. John Becker Sr. also played a critical role as the lead teamster of over 90 men and 160 oxen that helped Knox transport the cannons down the Hudson into the Berkshire Mountains of western Massachusetts. The move demonstrated what an adaptable leader Knox was even though

¹ Henry Knox, *Henry Knox's Diary*, 13 Janury 1776, The Massachusetts Historical Society, accessed 17 November 2014, http://www.masshist.org/revolution/doc-viewer.php?old=1&mode=nav&item_id=501.

² Bernard A. Drew, *Henry Knox and the Revolutionary Trail* (New York: McFarland Company, 2010), 157.

³ Knox, *Henry Knox's Diary*, 12 December 1775.

he was inexperienced when it came to military logistical operations and depended on the decentralized execution of his team to achieve success.

Definitions

To better understand the comparisons of historical examples into today's doctrine it's important to define the terms. Mission Command is defined in Army Doctrine and Training Publication (ADRP) 6-0 as the "exercise of authority and direction by the command authority using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations."⁴ A centralized intent would be distributed to the subordinates for decentralized execution. Mission Command seeks to be comprehensive. Due to the complex world in which military operations take place, participants must have the freedom to act according to the overall intent without direction.

The philosophy of Mission Command has its roots in the German military philosophy called *Auftragstaktik*. These German mission type tactics were a corner stone in their doctrine since the 19th century. *Auftragstaktik* is the use of mission type orders dependent on the certain situation presented. In these mission type orders the commander would give out a clear end state to his subordinates for them to reach. This decentralized method allowed creativity in execution and encouraged broad usage of different methods of tactics to achieve the desired result. German officers were trained to apply *Auftragstaktik* by understanding the broad purpose given to them by their commander,

⁴ Headquarters, Department of the Army, Army Doctrine Reference Publication (ADRP) 6-0, *Mission Command* (Washington, DC: Government Printing Office, 2012), 1-5.

and execute based off of the commander's intent without direct oversight.⁵ This philosophy was first created under the Prussian General Gerhard von Scharnhorst and later modified by Helmuth von Moltke the Elder. Moltke later added the aspect of leading by directives alone.⁶ It would be custom in the Germany army to name only the objective and let the subordinate officer to implement the plan on his own. *Auftragstaktik* was designed to be very decentralized in nature to promote a non-rigid method of execution.

The Mission Command doctrine itself is based on three ideas: the exercise of mission command, the mission command philosophy, and mission command as a war fighting function.⁷ The exercise of mission command is an overarching tenet of Unified Land Operations. The exercise of Mission Command links Unified Land Operations in with the Mission Command philosophy and its war fighting function. This allows commanders to apply the foundational philosophy together with its war fighting function. This thesis will go into a brief explanation of each of its main ideas to assist in the explanation of the Mission Command philosophy.

Mission Command is a philosophy and a style of thought which enables subordinates the freedom to think creatively. Mission Command when applied as the warfighting function is one of six functions the US Army uses to ensure a well balanced approach is used in mission planning. The other warfighting functions are Sustainment, Intelligence, Movement and Maneuver, Fires, and Protection. Together, applied with

⁵ Ibid., Preface.

⁶ Karl-Heinz Frieser, *The Blitzkrieg Legend: The 1940 Campaign in the West* (Annapolis, MD: Naval Institute Press, 2005), 337.

⁷ Headquarters, Department of the Army, Army Doctrine Publication (ADP) 6-0, *Mission Command* (Washington, DC: Government Printing Office, 2012), 1.

Mission Command, they ensure subordinates have the freedom to reach the desired end state using the five other warfighting functions without having it spelled out in a rigid order.

The Mission Command Philosophy is based on the human aspect of command. It focuses on communication and encourages freedom of action within the commander's intent of an operation. The philosophy is guided by six principles: Building cohesive teams, creating a shared understanding, provide a clear commanders intent, exercise of a disipline initiative, use of mission orders, and acceptance of prudent risk. This thesis will demonstrate the direct examples of Knox utilizing them throughout his expedition. This thesis will also show instances of where Knox did not utilize any of these principles and was not as successful as he could have been. Cohesive teams are built through mutual trust. This allows freedom of communication to subordinates and back to the commander. Trust is also gained when all the officers understand the same shared doctrine and can predict future orders. A shared understanding allows subordinates to see the larger picture and how their function is nested with it. This assists in having all staff members strive for the same end state. Providing a clear commander's intent gives a broad purpose and a desired end state of what the commander wants to see at the end of the operation. This allows subordinates to operate and plan separately knowing the overall plan from their superior.

Exercising disciplined initiative is when subordinates in the absence of orders execute based on the commander's intent of the operation. This encourages timely decision making to occur. The use of mission orders allows subordinates to understand the result and the end state to be attained. This principle is interesting because even

though Knox gives out his intent throughout the expedition, he does not provide written orders. Finally, accepting prudent risk is when the commander accepts a level of risk to execute a portion of the operation. This risk is mitigated by understanding the entire picture.

Mission Command as a war fighting function integrates the other war fighting functions into one comprehensive purpose. It also allows a military organization to balance the art of command with the science of control. The art of command is generally defined as the skillful exercise of command using judgment to make decisions. The science of control is understood to include the regulation of forces and the other war fighting functions to accomplish a given mission. The science of control helps the commander give orders and communicate his intent through the use of staffs who inform the commander on the current situation, and then disseminate the intent given for execution. The primary way mission command as a war fighting function is executed is through the Operations Process.

The Operations Process is the Army's existing framework for exercising Mission Command.⁸ It consists of four major command activities performed during the execution of operations which are planning, preparing, executing, and assess the operation. These activities all overlap each other during the operations process and make this an iterative process. The commander will constantly assess his staff's ability not just to execute the operation, but on their planning as well. The staff is also heavily involved in the

⁸ Headquarters, Department of the Army, Army Doctrine Publication (ADP) 5-0, *The Operations Process* (Washington, DC: Government Printing Office, 2012), 1.

operations process by informing the commander and subordinate unit's guidance and information needed to execute the mission.

The Operations Process is built around four principles: commanders drive the operations process, build and maintain situational understanding, apply critical creative thinking, and encourage collaboration and dialogue. The commander is the single most important person in this process. By understanding the operation he can come to grasp its meaning and be able to visualize the plan in his mind. This deep understanding can assist the command in communicating his intent to his subordinates based on his knowledge of the operation. It is imperative the commander comes to a complete understanding of the operation before he gives guidance. Comprehension is critical to enabling the commander to see his situational understanding of the mission, the different variables, and their relationships which are included inside the operation. This allows him to apply critical thinking to solve, or foresee issues before they occur. This also allows both the command and the staff to analyze the operation and come up with new ways to solve the problem statement. Finally, with this deeply rooted knowledge of the operation the commander can then discuss it with his peers, or with the staff in dialog. This dialog can open new avenues of thought and fosters a creative environment which can lead to new considerations to solve the problem. The operations process is important for the successful execution of mission command.

Agile and Adaptive leaders are produced from the Mission Command philosophy. These leaders show great comfort dealing with ambiguity and possess a willingness to accept prudent risk. They can think on their own and respond to an ever changing environment with the appreciation for the unknown and uncertainty which exists in every

military operation.⁹ Prudent Risk is defined as the deliberate exposure to harm when the commander judges the outcome in terms of mission accomplishment is worth the cost.¹⁰ Commanders need to focus on achieving victory and not just mitigating risk during operations. Commanders that can balance and determine the amount of risk to accept often show the adaptability to accomplish complex missions successfully.

In the book *The Art of Command* Lieutenant General Herbert Raymond McMasters gives a useful description of agile and adaptive leadership by using Lieutenant General Harold (Hal) Moore as an example. Then LTC Harold Moore successfully used his agile traits while training his battalion for combat in the Ia Drang valley in South Vietnam in 1968, much as the same way Knox utilized adaptability to face the many challenges in transporting 58 cannons through the American frontier.¹¹ McMasters explains how Moore utilized extensive field exercises, training on the new air assault doctrine, and incorporated radio communication training into his unit's preparation for combat. These inventive traits are very similar to how Knox will utilize unique ice drilling techniques to cross frozen rivers during his expedition. Moore also displayed an agile and adaptive take on developing his team by embracing new training concepts to prepare his unit for their unique mission utilizing rotary wing platforms. Knox also demonstrated similar actions when he developed his cohesive team, that was made out of both soldiers and civilian teamsters, together focused on one goal. The leader

⁹ Headquarters, Department of the Army, Army Doctrine Reference Publication (ADRP) 6-22, *Army Leadership* (Washington, DC: Government Printing Office, 2012), 9-33.

¹⁰ Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-25.

¹¹ Harry Laver, *The Art of Command* (Kentucky: University Press, 2008), 212.

in the Mission Command philosophy is one that is both agile and adaptive. When Knox utilizes the principles of Mission Command, he demonstrates both adaptive and agile leadership in balancing troop movements, civilian contracting, farm animal husbandry, extreme weather, and frozen wet gap crossings in accomplishing his mission.

Correlating modern doctrine with previous historical examples is highly relevant in today's operating environment. Every examination of doctrine to glean its deeper concepts is a benefit to army leaders in today's time. By taking these concepts, and comparing them to previous actions, you gain a better understanding of just how the concepts are designed to work. Historical examples can show the benefits of the use of modern doctrinal concepts as well as showing the failures of not adhering to its rules. Historical examples also shine light on the premises that were used that led the operation either to its success or failure. An examination of Knox's operation will demonstrate how Knox was able to achieve success during the winter in upstate New York in 1775 and 1776 by utilizing the principles of Mission Command. Ultimately, examining the methods Knox used to achieve mission success with our doctrine is relevant today by showing what successful implementation of it looks like.

Another way this thesis is relevant to today's military officer is this study can lead to further research comparing doctrine with previous historical examples. Examining what worked and what did not is critical to improvement in any professional organization. When dealing with success or failure, it's important to understand what events led to the end state. Examining the historical examples and seeing if any of our doctrinal premises were utilized, provides valid insight into the strengths and weaknesses of our current doctrinal premises. Because the events already occurred, examining the

historical examples for doctrinal ideas also can show what the implementation can look like when practiced in the operating environment. The same way the German WWII General Heinz Guderian studied the military philosophy of *Auftragstaktik* which originated from Moltke when he broke his armored units through at Sedan in 1940; learning through previous examples better our current understanding in the present day operating environment.¹²

A historian's ability to also capture those failed instances in the past which could have proved successful had things been executed differently to achieve victory is also relevant. Although Knox's expedition was a success, he gave very poor intent when his expedition left the city of Halfmoon heading south for Albany. His intent had his men focused on reaching the next city only, and not clear that they should do so safely without incident. When the snow began falling, the expedition continued on its path. Within the next 36 hours the entire 180 man expedition became stranded in a blizzard one days ride north of Albany. This thesis will go deeper into how Knox could have given clearer intent when his expedition left the city of Halfmoon; but for now this example shows how Knox could have avoided this situation entirely if he had practiced communicating clearer intent. Examining failures is just as important as studying victories and the comparison with today's doctrinal premises can show the lessons learned with previous examples.

Thesis Organization and Methodology

This thesis will use a methodology based on comparing modern doctrine with historical events in order to demonstrate that, in practice, the doctrine is valid. This thesis

¹² Frieser, 157.

will first explain the definitions and philosophies of modern army doctrine to inform the reader on the premises which will later be compared. By using the journal Knox maintained throughout the expedition and comparing date and location entries he entered, this paper will be able to historically recreate this event day by day. This thesis will be able to show the speed he traveled at different intervals of the expedition based off the dates he entered at different locations. Since all of the towns he visited are still in existence today, this was relatively easy. Chapter 3 explains historically what happened; it will then demonstrate how Knox utilized each of the six principles of Mission Command for every major event which occurred. Some secondary sources will be used to assist in the research, but they all use Knox's journal as a primary source and there is little deviation or conflicting data.

The scope of this study will focus exclusively on the time period of Knox's expedition conducted from 9 December 1775 to 20 January 1776. Chapter 2 will provide a historical context to the events that led up to the British becoming besieged in the city of Boston. This chapter will also go into Knox's upbringing to demonstrate how he became the agile leader he was. Chapter 3 will cover a historical in-depth review of Knox's 45-day expedition and all the major events and people which took part. Chapter 4 will be a comparison of the historical events, both successful and not, with the six principles of Mission Command. This chapter will explain when Knox operated consistent with the principles and the outcomes. This chapter will provide an analysis of the outcome of Knox's action when he did use a Mission Command principle. Each major event will be categorized from Knox's expedition into a principle of Mission Command. By showing first the historical evidence of what occurred, chapter 4 will then

show how Knox did or did not successfully utilize the principles of Mission Command. Chapter 5 will be the conclusion with the results of the comparison and recommendations on how Army professionals can learn from Mission Command doctrine.

The scope of this thesis will also examine other aspects of the Mission Command philosophy such as agile and adaptive leadership and the Operations Process. Both of these premises are part of the Mission Command doctrine as described in ADRP 6-0 and will be compared to Knox's example.¹³ It is important to also mention these premises and compare them to Knox's actions to further solidify the comparison of Knox's actions on current doctrine. Agile and adaptive leaders are a byproduct of the Mission Command philosophy. These doctrinal topics will not detract or lessen the main focus of the study of examining and comparing in detail the principles of Mission Command. This further exploration into the facets of mission command will in fact complement the study.

Because the scope of this work focused on the 45-day expedition, primary sources of Knox's journal were the focal point of data. Secondary sources that referenced both Knox and Becker's journal supplemented their personal accounts, and assisted me in adding depth to the understanding of my historical research. Using only historical documents that were based solely on the facts of the events in the expedition which took place, very accurate information was obtained for this thesis which concerning the expedition. This is to ensure the historical explanation is pure, and avoid any bias that may leak into my doctrinal comparison findings.

The comparison of the actions Knox took and the premises of Mission Command will be essential to demonstrate the usage of modern doctrine in the past. By laying out

¹³ Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-24.

the definitions first and then explaining what actions Knox took, it will be very easy to classify and explain how his actions were similar to the philosophy of Mission Command. All events will be classified during his expedition into a principle of Mission Command first and then explain either the success or failure of each. This thesis will also show how Knox's actions did not get associated with a doctrinal concept and if he was successful or not in doing so. This is to ensure an objective analysis of Knox's operations and leadership activities compared to current Army doctrine. In those events in which Knox struggled, this thesis will show if he used a Mission Command principle first and explain how he could have done things better.

This historical event was an excellent study to utilize the criteria of comparing Knox's actions with modern doctrine because Knox was primarily on his own throughout the expedition without any outside influences. All events required Knox's leadership for action. Since this expedition was so unusual, Knox displayed direct positional leadership to influence every situation that developed. Since there was no textbook way of accomplishing this winter transportation, Knox had to use his direct leadership skills to propel this expedition to success.

Limitations and Delimitations

There are two types of limitations in this thesis, a historical limitation, and a delimitation timeframe for the expedition. Finding one historical primary source to draw all my information from, was a major historical limitation. Knox kept a very accurate diary throughout his expedition and mentioned in great detail all the events which took place in each entry. As great as his journal was, it was one man's perspective into the expedition. Notes were taken of the dates in which he started each entry which was on

average every three to four days. Then see how long he took to write the next entry and the location he was in at the time he wrote it. This helped me determine the distance and speed in which he was traveling, and helped me determine if the rough terrain really did have an impact on Knox's expedition which it normally did. This thesis was also limited by the lack of primary sources which were examined for all of its data. John Becker Jr.'s journal which was cited often in some of the secondary sources, could not be found for this thesis. All data used from his journal came from their reference in secondary sources. The historical data limitation was mitigated as much as possible by a preference to have used multiple sources to overlap the data. However, using the limited resources available yields a sufficiently accurate picture to capture all the events Knox's experienced during his journey.

The second major limitation was a delimitation timeframe applied to the thesis. This allowed me to focus on one specific timeframe in history to study and then correlate the examples used of modern doctrine. Therefore, it was decided to focus solely on the 45 day timeframe of the expedition itself from 8 December 1775 to 20 January 1776 to draw all my doctrinal comparisons to. The expedition Knox took was full of events and direct leader decisions which was perfect for this study. If the timeframe was expanded any further it would have diluted the thesis and would not have given as much attention to the expedition itself. This thesis goes into a historical background in chapter 2 of how Knox came to the conclusion to volunteer for the movement, but that data was not used to correlate my doctrinal comparisons. The background is only to assist the reader to understand the current operating environment of late 1775.

Literature Review

By focusing on the journal Knox maintained during the expedition, this thesis will be able to lay out day by day all the historical events that took place during the expedition. Knox's diary was the best source of information to write this thesis, not only because Knox's diary gave a complete breakdown of the number of cannons, but it also explained every detail and event which took place in the journey. Knox's diary revealed his plan to hire the two teams of local teamsters and their heavy reliance of livestock to move the guns on the journey. The method of how Knox and his brother William would drill holes into the frozen Mohawk and Hudson Rivers a head of the convoy to further freeze over the river for crossing proved helpful for this thesis. By using these steps, this thesis was able to recreate the route he took and visualize his journey on a deeper level by seeing the issues of the terrain he had to overcome.¹⁴

Secondary sources dealing specifically on this topic were very limited. The best secondary sources were Bernard Drew's *Henry Knox and the Revolutionary Trail* and Seymour Reit's *Guns for General Washington*. Both of these secondary sources relied heavily on Knox's journal as well and assisted in the explanation of Knox's entries he made along the way. Drew's book was very helpful in confirming the exact route Knox took and explained the locations of the dedicated plaques along the "Knox Trail." This source is only the only one which utilizes Becker Jr.'s journal. Knox's biography *Henry*

¹⁴ It is interesting to note that today a "Knox Trail" exists and is maintained today. This trail which is historically estimated route which Knox used for his expedition and has 23 separate plaques scattered along his route. The "Knox Trail" is a historical trail which at times turns into major highways like Interstate 90 (I-90), as well as single lane dirt roads. Although a recon was not conducted on the same route Knox took, the markers were in line with the entries Knox made and matched where it was expected him to have traveled in the winter of 75' 76'.

Knox by Mark Puls was also helpful in explaining the background on the man Knox was, but was limited on the details of the expedition itself. However, the data received on Knox's background was beneficial to assist me in understanding how Knox developed as a leader and why he chose to volunteer for this expedition in the first place.

The great feat of transporting the artillery pieces to Boston was never a main topic for historians. The majority of historical authors choose to briefly mention this feat. Almost every book which mentioned the cannons being moved was off on its total number given. Knox's diary and his biography were the main sources used to write my thesis. A lack of depth on the movement of the cannons, with inaccurate numbers of the total number of artillery pieces moved, stressed the importance of focusing on Knox's diary to write this thesis.

The vast majority of books on the American Revolutionary War that mention the event only mention the transportation of the cannons, but with no great detail. Seemingly almost every history book on the American Revolutionary War mentions Washington taking over the Continental Army in detail, where upon the various authors explain Washington's need for munitions and Knox aiding the cause. Knox is generally portrayed as an enabler to Washington's cause and sometimes portrayed in the same light as Nathaniel Greene: a highly competent civilian with no or little military experience wanting to aid the rebel cause. Most of the secondary sources go into the same amount of detail on Knox as in Greene. These authors and their casting of both Knox and Greene as enablers to Washington's success are correct. It is interesting to note Greene and Knox came into the Continental Army through the same methods having both lacked major

military campaigning experience, but due to their competency grew into leaders in Washington's circle.

Every history book which mentioned the cannons from Fort Ticonderoga had differing numbers of cannons moved, if a number was given at all. Knox began his expedition with 59 pieces of artillery ranging from three pound Cohorns to 24 pounder brass cannons. The total number of cannons was important for my thesis for it showed the lack of detail the secondary sources went into to obtain its information. Most secondary sources used the same number of cannons from other sources and cited them accordingly. Unfortunately, this meant if one source was inaccurate, multiple sources were inaccurate as well. This is where Knox's diary becomes important for it was the best and most accurate document dealing on the subject. Most secondary works are just wrong on the number of cannons, usually ranging from 45 to 87 cannons. David McCullough's book *1776* was another secondary source used for this topic. McCullough did not even mention the number of cannons moved. The reason why McCullough and other authors do this is simple, there were 19 different models of cannons, howitzers, and mortars moved.

To make things more difficult some were the same type, a 24-pounder for instance, but came in both brass and iron variations. For simplicity most authors want their writings to flow better and did not give a number for this reason. The authors, who did give a number, took Knox's inventory and just either counted the cannons, or a cannons and howitzer combination. When authors mention not cannons moved but "artillery pieces", they did not want to go into detail on which counted as an artillery piece and which did not. With over 350 mathematical different ways to compute the total number of artillery pieces moved; it is not a surprise there were so many variations.

These variations started leading me to focus more on Knox's diary as the most accurate piece of pure unaltered information.

During the research it was important to understand the exact number of cannons moved to help paint the picture of just how difficult this movement was. Chapter 3 gives an estimated breakdown of what his expedition looked like while in movement. With over five serials and 58 cannons spread among them this was no easy task to accomplish, even for the experienced teamsters of General Schuyler's Northern Army. After visualizing Knox's recreated movement, this thesis will demonstrate just how critical leadership was to this operation.

Army Doctrine and Training Publication 6-0 *Mission Command*, ADRP 5-0 *The Operations Process*, and ADRP 6-22 *Army Leadership* were used to provide direct doctrinal concepts. These manuals very clearly spelled out the definitions of Mission Command, and how the philosophy was based on six principles. These manuals made the research of studying Mission Command very easy and were essential for understanding the doctrinal premises for the comparison with Knox's actions. Karl-Heinz Frieser's *The Blitzkrieg Legend* was helpful in understanding the premise of what *Auftragstaktik* was. Although ADRP 6-0 *Mission Command* mentions *Auftragstaktik* in its preface, it does not go into any detail. Frieser's book gave an inside look into the foundational tenants and allowed an understanding of how the doctrinal notion of Mission Command evolved.

The premise of Mission Command was understood by utilizing resources from the Combined Army Research Library located at Fort Leavenworth, Kansas. Here a plethora of monographs dealing directly with Mission Command and its principles was found. The data base of the Mission Command Research Center, also located at Fort Leavenworth,

supplied additional sources which were utilized for more information. Unfortunately, since the information found was only “big picture” concepts and not dealing directly with the research, the sources could not be used for my thesis. However, these sources did help in understanding how the concepts of modern doctrine are used in today’s military. It is important to know all branches of the topic if you are going to compare it historically with a separate action and these resources did assist. The Journal Storage (JSTOR) database also assisted me in researching many different journal articles both dealing with Mission Command and Knox’s background. This was the single best database.

Finally, it is worth noting that there are no sources which dealt directly with the doctrinal comparison of Knox’s expedition with modern doctrine. Sources were found in which Mission Command was compared to previous historical events, but never directly with Knox’s expedition. This lack of prior material made the criteria for classifying each of Knox’s actions into a principle of Mission Command difficult. By going into detail of the doctrinal definitions which were established, a great baseline was set which made the historical comparison easier. When classifications were made of Knox’s actions into the principles of Mission Command, this thesis was very detailed in determining the classification in the specific principle. By providing enough data for the reader this thesis was able to demonstrate how Knox was able to utilize the principles of Mission Command in his successful expedition.

CHAPTER 2

THE SUMMER OF 1775

The purpose of this chapter is to give a historical synopsis of the events that led to the expedition in November of 1775. By understanding the operational environment in the pre-Revolutionary War time period, one will better understand the context of the environment when the guns were transported. The influences prior to the expedition will be examined giving further explanation to the environment. Knox's background will be reviewed in this chapter which will give keen insight into his leadership development and the reasons why he demonstrated the principles of Mission Command. By giving a quick synopsis of his growth into manhood, one can better appreciate how he displayed the leadership attributes during the expedition. This chapter will act as an explanation and provide the historical background of the operational environment leading up to the start of the journey in November 1775.

It is important to note Knox had an abrupt transition into manhood at an early age. Born in 1750 in Boston to a Mary Campbell and William Knox, both Scotch-Irish Presbyterian. William was a shipbuilder in Boston while young Henry was being groomed to attend Harvard University.¹⁵ Henry attended the Master John Lovell's prestigious Boston Latin Grammar School until he was nine when his world turned upside down.¹⁶ His father encountered serious financial trouble causing him to abandon

¹⁵ David McCullough, *1776* (New York: Simon and Schuster, 2005), 58.

¹⁶ Mark Puls, *Henry Knox: Visionary General of the American Revolution* (New York: Palgrave MacMillan, 2008), 3.

his family. William went to the West Indies and never returned. At the age of nine young Henry Knox now had to provide for his mother and his infant brother William.

Henry's mother Mary arranged for Henry to continue his education while working for a family friend in a bookstore in south Boston. The owner, a Mr. Nichols Bowes, played a paternal role in young Henry's life. He taught Henry basic mathematics, current literature, and updating him on political news from London, all topics of bestselling items in the store.¹⁷ Bowes also tended to work Henry long and sometimes grueling hours, imparting on him a sound work ethic. Henry's chores involved balancing the store's accounts, selecting and purchasing new materials from London and France, re-stocking the store nightly, and picking up the materials from the harbor when they came in. While this normal business routine was on going, Henry was also exposed to a large variety of readings including ancient works, mathematics, and history.

When Henry turned 18, he opened the New London Book Shop in Williams Court Boston.¹⁸ Now his own boss he had available not only recent magazines from London, but works on the military sciences which was a subject he became deeply interested. This interest spurred him to join the local Boston militia where he purchased his own uniform and sword.¹⁹ The bookstore was a meeting place as well which catered tea and food along with a section to review materials before purchase.²⁰ Henry also enjoyed advertising in

¹⁷ Ibid., 7.

¹⁸ Richard Frothingham, *History of the Siege of Boston and the Battles of Lexington, Concord, and Bunker Hill* (Boston: Little and Brown, 1851), 137.

¹⁹ Ibid., 138.

²⁰ Ibid., 137.

the local *Boston Gazette*, and often having his name in print in large font above the name of the store itself.²¹ Patrons of his bookstore included fellow Bostonians like Samuel Adams and Paul Revere who often enjoyed conversing with the young Henry.²² Adams and Revere were also interested in the updated European newspapers he had available and conversed with him on the current events. Both men possessed enlightened political views on how the people should be governed. Another frequent patron was Lucy Flucker, the young daughter of Thomas Flucker, the Secretary of the Massachusetts Colony.²³ Although Henry was not loud or vocal on his political thoughts, he also did not hide them either. The Fluckers were very conservative in their views and at first did not allow Henry and Lucy to court. Their relationship became too strong for the secretary to control and they were married in 1774 both at age 24. Lucy's father tried to influence Henry in his views by even offering him a British Army commission, but Henry refused. Although his views were different from Mr. Flucker, he still maintained a relationship with the Secretary that included regular talk of colony business including the current status of British troop movements around the city.²⁴

²¹ McCullough, 58.

²² Ibid.

²³ Knox's relationship with Thomas Flucker played a key role in the summer of 1775. Knox passed on the knowledge that British troops were going to leave Boston and arrest key figures in the Sons of Liberty. The plan was for the British to leave Boston undetected and travel by sea from Castle Island, which is a small garrison outpost in the Boston Harbor. This allowed the midnight riders lead by Paul Revere to warn the colonists in the Boston countryside. This act of treason to the British Crown might have been the final act Henry needed to prove his loyalty to the Sons of Liberty. Although, he was not in the inner circle, he was at least now considered affiliated with the group.

²⁴ McCullough, 58.

The influences that were present in Henry's bookstore as he grew into manhood need to be taken into consideration when examining the foundation of his leadership style. First was the fact Henry grew up having nothing provided for him. He had to fight for everything he had to both survive and provide for his mother and younger brother. Having his father walk out forced Henry to grow up at an early age. This could explain his owning a successful bookstore on his own by the early age of 18. It also demonstrates his independence both in his political views and in his aspiration to succeed. The patrons who visited his establishment had a strong influence upon the young impressionable Knox. It's normal for a business owner to chat with patrons, so they enjoy being there as return business is essential. It is likely Henry actually agreed with the views of the revolutionaries who entered his store having shared interest in written works. Paul Revere and Samuel Adams were both active members of the Sons of Liberty and saw in Knox a young, quick minded, self-made man with local political connections.²⁵ Although Henry owned his bookstore from 1768 to 1775, he was horrendously in debt.²⁶ As were most local small business owners in Boston, Henry was financially affected from the Townshend Acts and later the Intolerable Acts. Both laid an incredible burden on his book purchasing and accounts when the Boston Harbor was closed to commercial activity. It is easy to conclude Henry grew resentment as a small business owner to the

²⁵ Esther Forbes, *Paul Revere and the World He Lived In* (New York: Houghton Mifflin, 1943), 276.

²⁶ Frothingham, 138.

economic oppression he saw from across the ocean effecting his life and the life of his new bride.²⁷

Table 1. Tax Acts Placed on Boston 1765 to 1775

Acts	Timeframe	Impact
Stamp Act	1765-1766	Tea, paper goods, furniture
Townshend Acts	1767-1775	Tea, all imports from London to the colonies
Intolerable Act	1774-1775	Boston Harbor closed; colony of Mass. no longer can rule itself

Source: Created by author.

The Boston Massacre and the Intolerable Acts of the early 1770s were also other major influences on Henry. Having lived in Boston his entire life, Henry was at the eye of the storm of the American Revolution. Knox was an eyewitness to the events from the Boston Massacre as he stood on the steps of a church on Exchange Street.²⁸ Henry saw the crowd throwing snowballs, and then was close enough to hear the commands ordered by the British unit commander Captain Preston to his soldiers. Unfortunately, this also meant Henry was close enough to see up close the death of four Bostonians after the British soldiers fired into the crowd. Henry was so close to the event he was chosen to take the stand in the trial and provide his testimony. One could only imagine what conversations Henry had with Paul Revere in his bookstore after this event. The fact Henry was chosen to provide testimony during the five-month trial shows this was an

²⁷ Forbes, *Paul Revere and the World He Lived In*, 227.

²⁸ Ibid., 382.

ongoing event in his life. This undoubtedly would have been the topic of conversation with his patrons, especially those interested in what occurred from eyewitness testimony. This event is important because it lays a foundation of being an eyewitness to the British aggression that took place in Boston in the 1770s. This further gives evidence as to why Knox would side with the Sons of Liberty when the time for action came.

The Intolerable Acts which were passed in 1774, were a response from the British Parliament to the Boston Tea Party which occurred several months prior. The Boston Tea Party was organized and committed by the Sons of Liberty due to the frustrations over the Townshend Acts. Samuel Adams was one of the biggest voices to cry outrage over the Townshend Acts and one of the main organizers of the Tea Party.²⁹ Samuel Adams was also another one of Henry's patrons in his bookstore. There is no evidence to suggest Knox was present at the Boston Tea Party which is not surprising; Henry was never part of the inner circle of the group. Regardless of his participation, one can assume Henry did not disapprove of the action by some of his patrons. To make matters worse when the Intolerable Acts were passed in 1774, it closed Boston Harbor. Without an open harbor Henry could not operate his bookstore and lost his livelihood. He was totally dependent on new works from London to sell in his store. By this time Knox was in deep financial debt, and frustrated by the events in his surrounding world. He would use the adaptable traits he developed to achieve new success anywhere it showed an opportunity being that Boston no longer offered him an opportunity to succeed.

²⁹ John K. Alexander, *Samuel Adams: America's Revolutionary Politician* (Lanham, MD: Rowman and Littlefield, 2002), 27.

The summer of 1775 in Boston was season of revolution for the New England colonies. The battles of Concord and Lexington took place along the countryside in the villages around Boston. The British did not want to openly engage the American colonial militias. Unfortunately, the British forces were forced back to Boston and then pursued by colonial militias. These first battles would enrage the American colonists and those anti-British sentiments would spread throughout New England during the summer. Eventually the British commander, Brigadier General Thomas Gage would be replaced by a more senior British military veteran in Major General William Howe. Even after Howe received reinforcements during the summer the situation would not improve for the British. Knox, his wife and his friends, would be at the center of this firestorm that summer in Boston.

Immediately following the Battles of Lexington and Concord, a call to arms was sent to all American militias to gather near Boston. On every road and line of communication leading from Boston, the word of what had happened was spreading to the surrounding colonies.³⁰ American forces, along with supplies, began to arrive in and around the city. Soon a siege of Boston was taking place with more and more militias from surrounding colonies arriving by the day in the summer of 1775. Colonial militias from Massachusetts, New Hampshire, Rhode Island, and Connecticut had arrived to show support to the citizens of the besieged city. The American Minutemen were comprised mainly of light infantry forces with no heavy supporting artillery. They only had supplies they could carry. The colonialists could not attack directly the British forces defending

³⁰ Christopher Ward, *The War of the Revolution* (New York: Skyhorse Publishing, 2011), 53.

inside the town due to their lack of heavy munitions. All the growing numbers of militias could do was keep the British from sending additional parties into the countryside. A stalemate developed between the British and American forces around Boston, with each side unable to deliver the knockout blow.

By June of 1775 roughly 15,000 colonists had surrounded the city of Boston. They stretched in a half-circle around the harbor city of Boston with Cambridge being the headquarters of the commanding general, Major General Artemas Ward.³¹ Technically General Ward was only in charge of his own 4,000 militia men from Massachusetts while the rest of the colonies appointed their own commander in charge of their militia forces. Although the separate colonies had complete control over their militia forces, they still coordinated and followed Ward's orders. Massachusetts also had the largest amount of soldiers present. By commanding the Massachusetts militia and assuming tactical control of the remaining 11,000 militiamen from the surrounding colonies, Ward had an incredible amount of influence over the early American army. This command and control relationship continued into the summer and after the Battle of Bunker Hill in mid-June.³²

Major General Artemas Ward was born in 1727 in Massachusetts and was a career soldier both for the British and American colonial forces. He commanded the American colonial forces until General Washington was officially appointed the Commander in Chief of the American Army in June of 1775.³³ Washington would not

³¹ Ibid., 54.

³² Ibid.

³³ Ibid., 55.

arrive at Cambridge until after the Battle of Bunker Hill on the 3rd of July.³⁴ General Ward fought during the French and Indian War as a British colonial militia man. He commanded a regiment of troops which was involved in heavy fighting against the French around the Fort Ticonderoga region in upstate New York. During this time he was under the command of General James Abercrombie who was the overall British Army commander during the war. Ward was exposed to multiple operations while serving under General Abercrombie. He learned how to fight in the American frontier of western Massachusetts and upstate New York. He was exposed to tactics of the British army and their procedures for sustainment.

Due to failing health issues Ward was never with the frontline soldiers for long.³⁵ A kidney stone cut his time short with Abercrombie's army when he attempted unsuccessfully to capture Fort Ticonderoga in 1758. Ward would spend the majority of his time in the French and Indian War at Cambridge assisting the British army in administrative vice tactical roles. He learned how equipment and materials were transported in support of General Abercrombie's campaigns against the French. After the Battles of Concord and Lexington, he would lead the Colonial Massachusetts militia again making his headquarters at Cambridge. Because of his experiences and leadership, other colonies like New Hampshire and Connecticut listened to his advice in the early days of the siege. When Washington was appointed commander, Ward would serve as Washington's second-in-command during the Boston campaign. In July, Ward along with

³⁴ Puls, 30.

³⁵ Increase Tarbox, *Life of Israel Putnam* (Washington, DC: Kennikat Press, 1876), 105.

Israel Putnam, Charles Lee, and Philip Schuyler would all be promoted to the rank of Major General in July of 1775.³⁶ The rank of Major General at the time was the second highest rank below Washington's. This was an attempt of the Continental Congress to formalize the rank structure into a national American army, and make it distinct from colonial militia rank. Ward remained in service for the Massachusetts militia until 1777 when failing health again forced him to resign his commission.

When Washington arrived in Cambridge on the 3rd of July of 1775 as the commander, he was appalled at the current state of the American militia forces.³⁷ He was troubled by the short enlistment times the militia men were subjected to from their colonies. Some soldiers seemed to come and go as they pleased. Washington did not like the different ways each colony was in charge of its forces to a certain degree. There was also a lack of leadership that he found disturbing. Washington would also have a very difficult time working with now Major General Charles Lee, who was tactically superior to Washington raising at times much tension between the two.³⁸ It also highlights that Washington had very few people at the top of the command structure he could really trust. The colonial forces also had just lost one of its best and brightest leaders in Dr. Joseph Warren at the Battle of Bunker Hill.³⁹ The low amount of munitions was also a

³⁶ Ward, *The War of the Revolution*, 55.

³⁷ Kevin Phillips, *1775: A Good Year for Revolution* (New York: Penguin Books, 2012), 163.

³⁸ McCullough, 61.

³⁹ Joseph Ellis, *Revolutionary Summer* (New York: Alfred Knopf Press, 2013), 25.

concern for the American army. Even during the Battle of Bunker Hill ammunition and powder was in low supply.⁴⁰

Washington was counting on the fruits of the Canadian campaign the Continental Congress had just authorized. The fortress city of Quebec was filled with powder, saltpeter, and ammunition for both muskets and cannon alike.⁴¹ With Quebec captured, the materials could be used to help the colonial war effort around Boston. During the summer of 1775 Brigadier General Richard Montgomery was successfully campaigning through Canada having captured Montreal, and the Three Rivers colony along the St Lawrence River. Brigadier General Benedict Arnold had captured the fortress of Ticonderoga earlier in the year before starting his wilderness campaign which would have him leave Cambridge in November; travel through what is today Maine and link up Montgomery's forces at Quebec.⁴² Major General Philip Schuyler wanted to command the campaign himself, but fell ill and instead supported Montgomery logistically from his headquarters in Albany in upstate New York.⁴³ It is important to note the location of Schuyler's headquarters because Knox would later coordinate key aspects of his expedition with him there while he was enroute to Fort Ticonderoga.⁴⁴

Following the battles of Concord and Lexington, Henry and Lucy Knox made a daring escape from Boston. Tensions started mounting with Henry and his father-in-law

⁴⁰ Tarbox, 114.

⁴¹ Phillips, 309.

⁴² Ward, 163.

⁴³ Ibid., 151.

⁴⁴ McCullough, 66.

after he refused to accept a British commission.⁴⁵ Henry did not give Secretary Flucker any explanation as to why he would not fight for the British and knew time was against him as suspicions started to rise. Gage's army after the battles of Lexington and Concord, had begun arresting conspirators associated with the Sons of Liberty.⁴⁶ The couple decided to sneak away in the middle of the night after being tipped off the British were watching them. Henry had to leave his militia uniform behind, but not his sword. Knowing it would be too suspicious seeing a man in the middle of the night riding with a sabre, Lucy hid it in her skirt linings as they successfully left the city.⁴⁷ Lucy settled in Worcester while her husband began looking for new opportunities. Knox started working for the Continental Army as an engineering advisor, two weeks after the couple made their daring escape.

First he worked his connections to build a case as a valuable asset to the colonial cause. Knox did not walk straight into a military position. Knowing Samuel Adams was also in the Worcester-Watertown area, he asked him to spread the word to his contacts he possessed critical engineering skills. Samuel Adams wrote to his brother John Adams, and shared with him the notion he highly regarded him as having the qualifications of gunnery and fortification knowledge.⁴⁸ Henry then became an engineering consultant for Brigadier General John Thomas who worked for General Ward of the Massachusetts

⁴⁵ Frothingham, 138.

⁴⁶ Allen French, *General Gage's Informers* (New York: Greenwood Press, 1969), 165.

⁴⁷ Frothingham, 138.

⁴⁸ Samuel Adams, *Samuel Adams Papers*, 5 October 1775.

militia. Thomas wrote praising remarks on Knox and his abilities back to John Adams who was representing Massachusetts in the Continental Congress.⁴⁹ Knox was successful in making an outstanding impression with everyone he worked for so far in the young American Army.

It was when Knox had established himself and his qualifications as a civilian military advisor, did he then first approach General Ward on the idea of going after the cannons at Fort Ticonderoga.⁵⁰ At first, General Ward thought it would be impossible, as did many generals of Washington's inner circle. Washington at this time was beginning to doubt he possessed any competent engineers capable of leading men and accomplishing tasks. Washington's current artillery commander, Colonel Gridley was an old sick man who was incapable of leaving his tent most of the time.⁵¹ Washington had met Knox and his wife previously, and was impressed at the large jovial man. Washington at this time appeared to be accepting leaders to enter his army with little or no military experience. Nathaniel Greene was a blacksmith from Connecticut who also impressed Washington with his competent skills. Like Knox Greene was also a civilian with little military experience, but made up for it in his youth, exuberance, and competency. Greene would be appointed and commissioned as a colonel and served Washington rising to the rank of Lieutenant General before war's end. Washington wanted Knox to command some of the newly formed Continental Army units

⁴⁹ Puls, 30.

⁵⁰ Ibid., 33.

⁵¹ Nathaniel Philbrick, *Bunker Hill* (New York: Penguin Group, 2013), 246.

transforming them away from the traditional colony owned militia units.⁵² Washington wrote to the Continental Congress for the request of removing the cannons from Fort Ticonderoga and for a commission for Knox. On 23 October 1775, the Continental Congress requested a transfer of the cannons from Fort Ticonderoga and a commission to the rank of Lieutenant Colonel for Knox.⁵³ He praised John Adams for this opportunity and pledged his loyalty against tyranny.⁵⁴ Knox would be gone on his expedition by year's end, having been granted his request.

In 1775, Washington was critically short of both leadership and munitions and gave Henry the chance to accomplish this logistical endeavor. It was because of the lack of leadership in the Continental Army that Washington trusted the young and vigorous Knox with this mission in the first place. Having just lost one of the most competent leaders in Dr. Joseph Warren at the Battle of Bunker Hill, Washington desperately needed leaders to command his forces. When Washington assumed command in the summer of 1775 of the colonial forces surrounding Boston, he found few allies and mostly old incompetent men.⁵⁵ Washington desperately needed new blood to fill the ranks of his growing army if he was going to fight the British army and win. Washington was also counting on the capture of the fortress city of Quebec and all of its war stocks to help supply his army. After hearing word the Continental Army fell short of taking the

⁵² Puls, 33.

⁵³ Ibid., 30.

⁵⁴ Henry Knox, *Henry Knox Papers*, 23 October 1775, Massachusetts Historical Society Collections.

⁵⁵ Puls, 33.

city, he needed alternatives. Fortuitously, this was when Knox volunteered to bring the captured cannons of Fort Ticonderoga down for Washington's use. Knox was in the right place at the right time.

By 1775 Henry Knox was a self-made man with an incredible amount of Adaptable Leadership. Adaptability was a trait Henry had to master early in his life to survive. This leadership trait refers to leaders who can accept a level of ambiguity and uncertainty and still make a sound decision.⁵⁶ At age nine he developed his adaptive leadership by having the pressure of making decisions with the lives of his mother and brother on his back. He was forced to learn to adapt in order to survive. Being able to accept a certain level of prudent risk is also a trademark of an adaptable leader. Making decisions is never easy, but as a small business owner at age 18 Henry made these every day. Adaptable leaders also accept no premade solutions to current problems.⁵⁷ This can explain how a Boston bookseller felt confident enough to transport 59 cannons in the dead of winter. Henry's leadership allowed him to make decisions in uncertainty, and be successful. It also should be noted until Henry was 25; he had never left the city of Boston, ever. What better example of overcoming uncertainty than Henry Knox leading a critical expedition into unfamiliar land?

Henry Knox had been given a great opportunity to show his talents on a very difficult task. Most of Washington's generals had doubted the cannons could be brought down from Ticonderoga, but Washington was impressed with the man. Washington was

⁵⁶ Headquarters, Department of the Army, Army Doctrine Reference Publication (ADRP) 3-0, *Unified Land Operations* (Washington, DC: Government Printing Office, 2012), para 2-65.

⁵⁷ *Ibid.*, para 2-67.

also taking a risk sending this inexperienced man to lead this expedition. Knox could fail in his task, and Washington could have lost faith in his already tense command relationships with most of his battlefield commanders. Any signs of weakness from Washington during this time period could allow his enemies to gather strength and force him out as the commander. Knox had on his hands no small task to accomplish. The trip all together would be over 600 miles on small fur trader hunting paths not built for field gun transport. Henry would invite his brother to join him, knowing he would need all the help he could get. Knox would need to utilize all of his talents and skills he had learned from his military science books.

CHAPTER 3

THE NOBLE TRAIN OF ARTILLERY

The purpose of this chapter is to use historical events and actions during Knox's 45-day expedition to draw comparisons between the Mission Command principles. It will begin by understanding the operational environment at the time of Knox's movement in upstate New York. By depicting the ongoing military campaigns in the region, the leaders involved, and the preparations made in support of Knox, one will gain a better appreciation of the situation he faced. The background of the leaders involved such as Major General Philip Schuyler and John Becker Sr., will be looked at as well. Both individuals played critical roles in the movement and need to be taken into consideration in Knox's decision making. The expedition will be reviewed in a chronological order and will explain the journey to Fort Ticonderoga and the return back to Cambridge with the cannons.

The Operational Environment

It is important to understand the operational environment of upstate New York as Knox and his group arrived in late 1775. The Continental Congress had authorized a Canadian campaign to take place earlier in the year. Recently promoted Major General Schuyler commanded the Canadian campaign.⁵⁸ Schuyler was the geographic Commander of the Northern Continental Army Department headquartered in upstate New

⁵⁸ Justin Smith, *Arnold's March from Cambridge to Quebec* (New York: G. P. Putnam's Sons, 1903), 1.

York.⁵⁹ He was responsible for all American personnel stretching from Canada to New York City and into western Massachusetts.⁶⁰ The invasion plan was to take the Canadian city of Quebec using two separate lines of advance. The first advance went through the St. Lawrence River, and the second advance went through what is present day Maine.⁶¹ Brigadier General Benedict Arnold was given command of a regiment of Connecticut militiamen and maneuvered his forces through Maine to reach Quebec from the south.⁶² Schuyler along with Brigadier General Richard Montgomery were to travel up the Hudson, past the recently captured Fort Ticonderoga, and start advancing on British garrisons along the St. Lawrence River. The plan then called for both Arnold and Schuyler to link up at Quebec and take the fortress city in a combined effort.⁶³ Unfortunately, Schuyler became ill at the start of the campaign and let Montgomery command the army through the St. Lawrence River. These events positioned Schuyler's headquarters to be in the city of Albany which is where he would provide assistance to Knox.⁶⁴

⁵⁹ Phillips, 362.

⁶⁰ Richard Strum, *Henry Knox Washington's Artilleryman* (Stockton, NJ: Ottn Publishing, 2007), 25.

⁶¹ Smith, 4.

⁶² Arnold would travel north through New Hampshire, and then through Maine or through the "wilderness" as what Arnold would label the campaign.

⁶³ Smith, 2.

⁶⁴ Thomas Desjardin, *Through a Howling Wilderness* (New York: St. Martin Press, 2006), 84.

With Schuyler maintaining the lines of communication from New York, his campaign into Canada was a failure. On the 1st of December 1775, the rebels failed to take the city of Quebec and Montgomery was fatally wounded. Arnold took command and led the withdrawal from the city.⁶⁵ Schuyler remained in Albany supporting his failed campaign with supplies until the Continental Congress disbanded the Northern Continental Army Department in 1776.⁶⁶ In the meantime Schuyler supplied Arnold's retreating army with fresh supplies using teamsters with farm animals to haul them across the St. Lawrence River valley. He was very involved with the logistical movements in the region having run these operations, for his failed Canadian campaign from upstate New York.⁶⁷

Schuyler had known of Knox's plan through correspondence with General Washington. He made the necessary preparations to ensure the mission's success.⁶⁸ Washington had ordered Schuyler to prepare for Knox's journey and provide whatever assets were needed to achieve a successful mission.⁶⁹ One of the greatest assistance he provided was security. Schuyler had been negotiating with the local Iroquois Indians, winning their friendship in the months before the Canadian campaigns started.⁷⁰ The

⁶⁵ Smith, 4.

⁶⁶ Phillips, 245.

⁶⁷ Desjardin, 84.

⁶⁸ Leonard Falkner, *Forge of Liberty* (New York: E. P. Dutton, 1959), 230.

⁶⁹ Ibid.

⁷⁰ George Billias, *George Washington's Generals* (Boston: William and Morrow, 1964), 60.

Iroquois had traditionally sided with the British in their wars against the French.⁷¹ He had invited their chiefs to meet with him in Albany prior to Knox's arrival in November to arrange a peace settlement. The conference was a success, with Schuyler reporting to Washington about reaching an accord.⁷² The Iroquois treaty was important for two reasons. With the double advance into Canada ongoing, he needed to ensure his long supply lines from Albany to Montreal and later Quebec were uninterrupted. He also needed to ensure nothing interfered with Knox's movement as he traveled the countryside.⁷³ Being aware of the mission allowed Schuyler to ensure the operational environment was prepared for Knox's success even before he left Cambridge.

17th of November to the 1st of December 1775

On the 17th of November 1775, Henry Knox along with his brother William and 42 Massachusetts militiamen left Cambridge to begin the journey to retrieve the guns from Fort Ticonderoga.⁷⁴ Washington had authorized Knox 1,000 Continental dollars, of which Knox would only use half upon his completion of the journey.⁷⁵ The party left Boston to head to New York City and purchased additional supplies since Cambridge had

⁷¹ Ibid.

⁷² Billias, 60.

⁷³ At its full length Knox's party was over 4 miles long split into 5 sections. Carrying heavy cannons on sleds up and down hills, he moved much more slowly than some of the correspondence he was sending back to Lucy in Worcester.

⁷⁴ Puls, 35.

⁷⁵ Strum, 26.

depleted stocks.⁷⁶ On the 20th of November, the party stopped in Worcester. This city fell along the Amherst Road which crossed west into the Berkshire Mountains of western Massachusetts.⁷⁷ This was a very poor road linking New York City to Albany, and would later be utilized by Knox and his team on the return expedition.⁷⁸ Knox's expedition had begun smoothly with his brother and the 42 militiamen traveling across the road networks of New England into New York.

Between the 29th of November and the 1st of December, Knox traveled to Albany while key events transpired in Cambridge without his knowledge.⁷⁹ The Continental Congress approved Knox's selection as being the Chief of Artillery for the Continental Army.⁸⁰ With the new title came another promotion to full Colonel.⁸¹ John Adams was the biggest advocate for Knox's selection in the Continental Congress. He knew the current Chief of Artillery, Colonel Gridley, was increasingly unable to hold the position due to this age and health.⁸² Knox was chosen over two apprentices who worked directly under Colonel Gridley for the position.⁸³ Knox would not learn of his recent promotion

⁷⁶ Francis Drake, *Life and Correspondence of Henry Knox* (Boston: University of California, 1878), 25.

⁷⁷ Puls, 36.

⁷⁸ Drew, 1.

⁷⁹ Drake, 25.

⁸⁰ Puls, 36.

⁸¹ *Ibid.*, 33.

⁸² Frothingham, 141.

⁸³ Drake, 21.

and new title until his return to Cambridge in January.⁸⁴ Knox and his party reached Albany on the 1st of December mostly unaware of the events taking place in Cambridge.

1st to the 8th of December 1775

The team stayed in Albany for five days and left on the 5th of December.⁸⁵ The stop in Albany is significant because this is where Knox's party doubled in size. Waiting for him in Albany was General Schuyler, who discussed with him the plan on how to safely remove the cannons from the fort. Although condescending to Henry on multiple occasions during their short acquaintance, Schuyler was able to provide much needed logistical assistance to the expedition.⁸⁶ Schuyler intended on having the mission succeed by introducing Knox to one of his best teamsters, John Becker Sr.⁸⁷

Knox met Becker in Albany, and together with Schuyler they reviewed the plan to retrieve the guns.⁸⁸ Knox clearly expressed his intent at the meeting on how he needed to bring the guns back to Washington. Schuyler and Becker most likely advised him on the best method to transport the guns back to Cambridge. Henry made the financial preparations in Albany for the construction of 42 sleds all drawn by oxen.⁸⁹ The sleds

⁸⁴ Puls, 34.

⁸⁵ In a letter home to Lucy on the 2nd Henry wrote how impressed he was on the waterway trade available at the city. Since Henry was also accustomed to the Boston Harbor as a source of trade, you can see where a river port could be a big surprise to a naïve Henry.

⁸⁶ Frothingham, 142.

⁸⁷ Drew, 130.

⁸⁸ Frothingham, 142.

⁸⁹ Drew, 130.

were vital to Becker and his teamsters to transport the heavy guns back to Cambridge.⁹⁰ Schuyler had been preparing for Knox's arrival for some time, and had available all the means for him to succeed including assigning Becker to the task.⁹¹ John Becker Sr. was from the New York area and had worked with the colonial army on previous occasions.⁹² He had shown his patriotism to the colonial cause and Schuyler liked his dependability. Becker was a vital contributor to Knox's success because he was the subject matter expert on animal transport, carpentry, and was the single point of contact for all of the teamsters joining Knox's expedition.⁹³ For clarity, this thesis will use the term "teamster" to identify Becker's job title. This term appears in all the diary entries and financial receipts made by both Knox and Schuyler. Teamster was used interchangeably for the modern day contractor who worked exclusively with animal push cart wagons. In present day, Becker would be the "head contractor" in charge of the 45 men he used for the journey.⁹⁴ Becker's son, John Becker Jr., accompanied his father on the journey.⁹⁵ At age 13 during the trip, Becker Jr. kept an accurate journal detailing the journey.⁹⁶ The majority of the narrative about the teamsters in this study came from his journal. Becker Jr. made no note in his journal of ever receiving a map or a written order on the

⁹⁰ Frothingham, 144.

⁹¹ Billias, 61.

⁹² Drew, 131.

⁹³ Ibid.

⁹⁴ Ibid.

⁹⁵ Ibid., 130.

⁹⁶ McCullough, 82.

expedition; all orders from Knox seemed to be verbal only. Knox, Schuyler, and Becker had all reached an agreement on how the guns would be transported at the meeting in Albany.

Becker preferred to move heavy equipment over rough terrain on either wagons, or sleds drawn by yoked oxen.⁹⁷ On rough terrain he had teams of carpenters create a system of ropes and pulleys to pull the heavy loads up and then used them to prevent the equipment from running out of control when moving downhill.⁹⁸ This system explains why 45 additional men were needed to conduct the movement. This procedure took a long time and was exhausting work, but it was work Becker knew how to do. It was critical for Knox to trust Becker to execute this tedious work without getting in the way since Knox knew very little about heavy equipment transport.

In Albany, Becker had the 80 yoke of oxen ready to accompany him on his journey.⁹⁹ A yoke of oxen is actually two oxen of similar size tied together by a yoke to pull large farm equipment like plows. A total of 160 oxen accompanied Knox on his journey. Becker only took Knox as far east as Springfield, Massachusetts on the return expedition with the guns. The reason for Becker's early withdrawal was that he was needed back in Albany for additional assignments. The remaining 91 miles to Cambridge were on relatively flat terrain that any teamster crew could handle.¹⁰⁰ With the teamsters integrated into the expedition, Knox's complete team was prepared to depart Albany.

⁹⁷ Drew, 127.

⁹⁸ Ibid., 129.

⁹⁹ Puls, 38.

¹⁰⁰ Drew, 135.

On the 5th of December, with General Schuyler remaining in Albany, Knox's complete party of 90 men, 80 yoked oxen, 42 empty sleds, and supplies for both the men and animals left for Halfmoon, New York.¹⁰¹ At Halfmoon, the group had to cross the Mohawk River over its small bridge.¹⁰² This river crossing was difficult on Knox's return trip, for the bridge in Halfmoon would prove unable to support the weight of the cannons with the oxen teams. Knox's party continued north and traveled through Saratoga and reached Fort George on the night of December 7th.

As the group traveled with Knox to Fort George, they prepared to cross the waterways to reach Fort Ticonderoga. Fort George is located at the southern tip of Lake George which connects to Lake Champlain. Fort Ticonderoga sits on the northwestern edge of Lake Champlain, and is 33 miles across water from Lake George.¹⁰³ Knox took his brother William, and about a third of his men, to retrieve the guns from Fort Ticonderoga. Becker remained behind in Fort George with the oxen and the majority of the team to be in position to offload the boats upon Henry's return.¹⁰⁴ Since Fort George had a small port, it was easy for him to hire some local boats and boatmen to take him and his team by water to Fort Ticonderoga. The two men Knox hired were Captain Johnson and his 43 men, and Mr. Holmes and his 12 men.¹⁰⁵ These men came from Crown Point which was a port city on Lake Champlain just north of the Fort

¹⁰¹ McCullough, 62.

¹⁰² Ibid.

¹⁰³ Billias, 241.

¹⁰⁴ Philback, 268.

¹⁰⁵ Knox, *Henry Knox's Diary*, 9 December 1775.

Ticonderoga. Henry knew he required skilled boatmen to help his expedition navigate the lakes, and took the initiative himself to hire them. With enough boats and an experienced crew to assist in crossing the waterways, Knox and his expedition were prepared to retrieve the guns.

8th and 9th of December 1775

Knox sailed through Lake George and Lake Champlain, and reached Fort Ticonderoga on the 8th of December.¹⁰⁶ When Knox first approached the fort, the small garrison force stationed there had no idea of his plan.¹⁰⁷ He presented General Washington and Schuyler's orders, and the fortress sentries eventually accepted the documents. The fort's garrison was dumbfounded such a task was issued in the middle of the winter.¹⁰⁸ Now mid-December in upstate New York, large chunks of ice had formed on the shores of the lakes with dropping freezing temperatures at night. The sentries stationed at the fortress initially provided little assistance to Knox. He rallied these men to assist him, claiming Washington needed the guns in Boston.¹⁰⁹ It was here, Knox proclaimed to the men of the fort he intended to present Washington with a Noble Train of Artillery.¹¹⁰ With the sentries of the fort motivated to assist Knox, he went about acquiring the valuable artillery.

¹⁰⁶ Philback, 268.

¹⁰⁷ Bruce Lancaster, *Ticonderoga The Story of A Fort* (Boston: Houghton Mifflin Co, 1959), 134.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

Knox then started the survey and inspection of the cannons in the fort. He unfortunately found most of the 150 cannons present at the fort inoperable due to old age.¹¹¹ He fully intended to take all usable cannons, load them on the boats, and set sail on the lake the next morning. On the 9th came the task of transporting all the cannons down to the waiting boats. In all, Knox selected 59 pieces of artillery from the fort. These 59 pieces fell into 19 different classifications of make and model.¹¹²

¹¹¹ Billias, 241.

¹¹² Knox, *Henry Knox's Diary*, 17 December 1775.

Table 2. Cannons Procured from Fort Ticonderoga
Brass Artillery

Brass Artillery				
Number of Pieces	Artillery Type	Size of Round	Size of Bore	Average Weight ¹¹³
2	Cohorn	-	5 7/10 in	1,000 lbs. (<i>total</i>)
4	Cohorn	-	4 ½ in	2,000 lbs. (<i>total</i>)
1	Mortar	-	4 ½ in	500 lbs.
8	Cannon	3 Pounder	3 1/20 in	4,800 lbs. (<i>total</i>)
3	Cannon	6 Pounder	3 7/10 in	5,700 lbs. (<i>total</i>)
1	Cannon	18 Pounder	5 ½ in	2,800 lbs.
1	Cannon	24 Pounder	5 11/12 in	4,500 lbs.

Source: Created by author.

¹¹³ Knox makes no mention of the actual weight of any of the 59 cannons he procures. The weight listed is what was found based off similar guns. The weight estimates are to assist the reader in seeing just how heavy these cannons were. All weights estimates obtained from Gunther Rothenberg, *The Age of Warfare in the Age of Napoleon* (Indianapolis: Indiana University Press, 1980), 15-75; David McConnell, *British Smooth Bore Artillery* (Ottawa: Minister of Canadian Supply and Services, 1988), 17-138.

Table 3. Cannons Procured from Fort Ticonderoga
Iron Artillery

Iron Artillery				
Number of Pieces	Artillery Type	Size of Round	Size of Bore	Average Weight
1	Mortar	-	6 ½ in	1,000 lbs.
1	Mortar	-	10in	1,500 lbs.
1	Mortar	-	10 ¼ in	1,500 lbs.
3	Mortar	-	13 in	10,500 lbs. (<i>total</i>)
1	Howitzer	-	8 in	4,200 lbs.
1	Howitzer	-	8 ½ in	4,400 lbs.
6	Cannon	6 Pounder	3 7/10 in	14,400 lbs. (<i>total</i>)
4	Cannon	9 Pounder	4 4/10 in	8,400 lbs. (<i>total</i>)
10	Cannon	12 Pounder	4 ¾ in	42,000 lbs. (<i>total</i>)
7 ¹¹⁴	Double Fortification Cannon	18 Pounder	5 ½ in	28,700 lbs. (<i>total</i>)
4	Cannon	18 Pounder	5 ½ in	14,300 (<i>total</i>)

Source: Created by author.

Totals: 2 howitzers, 43 cannons, 14 mortars-cohorns; 59 Total Artillery Pieces, estimated at a total weight of 150,200 lbs.¹¹⁵ A complete appendix with each artillery

¹¹⁴ One of these 18 pounders will not make the entire journey after falling in the Mohawk River.

piece illustrated can be found in Appendix A. With the inventory complete Knox went about loading the vessels for his departure.

Knox used the hired civilian boatmen to assist him in both loading the boats and transporting them down the waterway.¹¹⁶ The cannons were brought down to the boats from Fort Ticonderoga by a small team of animals already present at the fort. They were separated from their carriages once they were loaded onto the boats to distribute the weight evenly. Johnson and Holmes' boatmen assisted Knox in the difficult task of transporting the 59 pieces of artillery across the 33 miles of Lake Champlain and Lake George.¹¹⁷

Of the estimated 45 boats consisting of Knox's little fleet, there were three types.¹¹⁸ The first were referred to as gondolas, but were nothing like the Italian models.¹¹⁹ These were in reality 55 foot long scows with one mast with a sail, and were also capable of being propelled by poles when necessary. The second and most prevalent boat found in the fleet was a flat bottom barge called a bateaux.¹²⁰ A bateaux was capable

¹¹⁵ Knox, *Henry Knox's Diary*, 17 December 1775.

¹¹⁶ McCullough, 83.

¹¹⁷ Billias, 241.

¹¹⁸ Using the estimated vessel weight capacity breakdown, and the total cannon weight estimate of 150,000, Knox's fleet consisted of at least 45 total vessels. The types of vessels used came from Richard Frothingham, *History of the Siege of Boston* (Boston: Little and Brown, 1851), 143.

¹¹⁹ Philback, 268.

¹²⁰ *Ibid.*

of hauling heavy equipment due to its ability to evenly distribute its weight.¹²¹ There is a very good chance Knox's single 24 pounder brass cannon was on a bateaux since that was the only vessel available capable of carrying this massive 4,500 lbs. cannon. The third boat type used was a piragua. A piragua is like a large canoe, but more maneuverable than a scow or a bateaux.¹²² It was capable of transporting lighter equipment of no more than 2,000 lbs.¹²³ Knox provided the command and control of the movement down the lakes from a piragua by positioning himself in the center of the movement.¹²⁴

¹²¹ Ibid.

¹²² Frothingham, 143.

¹²³ Ibid., 139.

¹²⁴ Seymour Reit, *Guns for General Washington* (New York: Harcourt, 1990), 45.

Table 4. Knox's Fleet of Lake George and Champlain

Knox's Fleet Breakdown ¹²⁵		
Type of Vessel	Average Length	Average Weight Capacity
Gondolas	55 Feet	2,300-3,000 lbs.
Bateaux	60-75 Feet	5,500-6,000 lbs.
Piragua	30-45 Feet	1,200-2,000 lbs.

Source: Created by author.

9th to the 17th of December 1775,
33 Miles, 10 Days

It took from the 9th to the 17th of December to travel the 33 miles across Lake Champlain and Lake George to reach Fort George on its southern shore.¹²⁶ The movement on the boats was very difficult due to howling winds produced from the lakes, blowing against the heavy weight of the cargo laden vessels.¹²⁷ Since there were so many smaller vessels, there was no way Henry could be everywhere at once. William remained in the tail end of the movement with visibility of any stragglers. The weather was

¹²⁵ Since Knox never gave a complete accurate breakdown of the various types of vessels used, and since there was no records found from CPT Johnson or Mr. Holmes, these are estimates based on the type of vessels present at this time on Lake George and Lake Champlain. Knox only references having a "little fleet" in his journal instigating multiple vessels. These estimates came from his biography Mark Puls, *Henry Knox: Visionary General of the American Revolution* (New York: Palgrave-MacMillan, 2008), 65.

¹²⁶ McCullough, 83.

¹²⁷ Reit, 46.

cooperating with them as they headed south. On the first day of travel a scow from Williams's group sprang a leak from the mass amount of weight it was carrying. The boatmen were able to navigate the scow to shallower waters, thus it was visible before it hit the bottom.¹²⁸ William helped the boatmen empty the boat, recover the sunken cannon, drag the boat ashore, and repair it before getting on their way again. This incident reveals the boats were loaded with more equipment than usual, and just how dangerous this movement had the potential to be. It also showed Henry's desire to recover any lost cannon along the way. Having only obtained 59 usable cannons from the fort, he could not afford to lose any of them along the journey. Henry's fleet stopped the first night at Sabbath Point. On the night of the 9th the crew received its only respite from a village while navigating south on the waterways. The remaining time on the lakes, Henry and William's crew found a suitable shore to land the vessels, in which to start fires to eat and rest.¹²⁹

On the morning of the 10th of December, a howling wind was blowing in their faces as they continued their journey south.¹³⁰ The boatmen stowed the sails, and were forced to use poles to navigate on the lakes. This decreased their speed and with "great difficulty" made little progress during the day.¹³¹ The weather stayed like this the remainder of the time the men were traveling on the lakes. On the night of the 12th, the crews poled ashore and started a raging fire. Soon Algonquin Indians appeared and

¹²⁸ Ibid.

¹²⁹ Ibid., 44.

¹³⁰ Puls, 38.

¹³¹ Knox, *Henry Knox's Diary*, 10 December 1775.

surrounded the camp. William ran for his knife and alerted the others to do the same.¹³² As it turned out the Indians were just curious as to why there was such a large fire in an unpopulated area of the lake. Soon they brought some deer and all feasted on roasted venison.¹³³

Sensing all was well with the water movement; Henry set his eyes on the next phase of the mission. On the 13th he traveled in his piragua by himself down to Fort George to prepare the teamsters positioned there to haul the guns out of the boats.¹³⁴ Henry selected William to lead the movement while he sailed ahead.¹³⁵ This act demonstrated he had the confidence in his subordinates to handle any task given to them. Henry hired additional oxen teams at Fort George just for the unloading of the boats.¹³⁶ Becker's teamsters remained on the road at Fort George with the animals and organized the movement into five separate serials based on Knox's intent.¹³⁷ Satisfied with conditions at Fort George, he traveled back north to rejoin the fleet.¹³⁸

Still traveling by pole in the harsh weather, the movement remained slow and difficult on the 15th and the 16th. There were a few more close calls with boats almost sinking during the last few days on the lakes. The boatmen had to rearrange the cargo of

¹³² Reit, 47.

¹³³ Ibid.

¹³⁴ Knox, *Henry Knox's Diary*, 13 December 1775.

¹³⁵ Reit, 47.

¹³⁶ Knox, *Henry Knox's Diary*, 13 December 1775.

¹³⁷ Frothingham, 144.

¹³⁸ Puls, 38.

the boats several times to stop them from sinking.¹³⁹ Sometimes cargo even had to be cross loaded to the larger bateaux boats.¹⁴⁰ William and Henry had to ensure each boat stayed in contact with the other boats to prevent accidents or the loss of cargo. The entire group reached Fort George on the 17th.

At Fort George, Henry spent the day writing correspondence while William organized the guns with the awaiting movement.¹⁴¹ With William aiding in the organization of the movement, Henry was able to focus on the overall mission. Henry paid the boatmen for their labor and sent out two letters during the day.¹⁴² One letter was to General Washington which proclaimed he successfully received the cannons from Fort Ticonderoga, and gave a detailed record of them.¹⁴³ The earlier record of the 59 cannons matched his journal entry. Henry also proclaimed he would reach Cambridge by 2 January 1776.¹⁴⁴ He also wrote to Lucy to tell her he was on his way with his noble train of artillery.¹⁴⁵ Completing the letters he exited the inn and entered a scene of organized

¹³⁹ McCullough, 83.

¹⁴⁰ Puls, 38.

¹⁴¹ Ibid., 39.

¹⁴² Knox, *Henry Knox Papers*, 17 December 1775.

¹⁴³ The Gilder Lehrman Institute, *Dragging Cannon from Ft Ticonderoga to Boston, 1775* (2012), 2.

¹⁴⁴ It is interesting to also note at about this time General Washington in Cambridge received word from the Congress Henry would be promoted to Colonel along with his new title. Henry would find out about his promotion upon his arrival.

¹⁴⁵ McCullough, 83.

chaos.¹⁴⁶ William was everywhere ordering teamsters to hoist the guns off the boats, and into their proper places in the organized convoy.¹⁴⁷

Five separate serials made up the movement, with no serial carrying more than 17 cannons.¹⁴⁸ Each piece had remained with its broken down carriage as it crossed the lakes.¹⁴⁹ Each gun and its carriage were loaded onto sleds and tied down with ropes.¹⁵⁰ Great care was taken not to separate a cannon from its carriage as there were multiple versions present. There were a total of 13, 18, and 24 pounders, which comprised the heaviest version of guns present.¹⁵¹ Henry had the 13 heavy guns comprise the first serial to set the pace of the movement.¹⁵² These 13 cannons were to be drawn by two yoke of oxen each. This configuration required every 18 pounder to have four oxen, plus a team of teamsters and soldiers accompanying the gun.¹⁵³ These labor intensive heavy cannons were the slowest to move, plus required rigorous attention from the teamsters to be made

¹⁴⁶ Reit, 49.

¹⁴⁷ Puls, 39.

¹⁴⁸ The term serial is being used to better explain the movement, Knox references the word “group” from his journal to explain how the teamsters organized the movement. The teamsters also did not want no more than 17 artillery pieces per serial for better control. Drew, 128.

¹⁴⁹ Frothingham, 143.

¹⁵⁰ Knox or Becker Jr make no notes or observations as to the different types, if any, of the sleds used. It can be presumed that whatever difference to the sleds were minimal.

¹⁵¹ Knox, *Henry Knox's Diary*, 13 December 1775.

¹⁵² Frothingham, 144.

¹⁵³ Drew, 131.

on downhill movements of the cannons.¹⁵⁴ It was better to have the same crew of experienced teamsters dealing with all the heavy cannons in one group.¹⁵⁵ John Becker Jr. recorded that he and his father were with the lead sled of the brass 18 pounder.¹⁵⁶ Both he and his father rode horseback constantly observing their assigned yoke. One teamster could control no more than two yoke of oxen.¹⁵⁷ The Connecticut militiamen were equally dispersed among the five serials.¹⁵⁸ The rest of the cannons and mortars were each drawn by a yoke of oxen by itself. Below is an estimated movement table of what Knox's Noble Train of Artillery might have looked like, based off current information and research.¹⁵⁹

¹⁵⁴ Frothingham, 143.

¹⁵⁵ Ibid.

¹⁵⁶ Drew, 133.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid., 130.

¹⁵⁹ The mathematical determination was made that 1 ox can carry 700 lbs. Using that formula all the weights for all the cannons were computed and it was determined what that serial would look like inside the larger movement.

Table 5. Estimated Formation of Knox's Expedition
Serial 1 through 5

Serial #1			
12 Soldiers			
7 x Iron 18 Pounders	7 x sleds	14 x yoke	7 x teamsters* <i>(Becker Sr. and Jr. included)</i>
4 x Iron 24 Pounders	4 x sleds	8 x yoke	4 x teamsters
1 Brass 18 Pounder	1 sled	2 yoke	1 teamster
1 Brass 24 Pounder	1 sled	2 yoke	1 teamster
Serial Total:	13 Cannons, 13 Sleds, 12 Soldiers, 12 Teamsters, 26 Yoke		

Serial #2			
8 Soldiers			
Henry Knox ¹⁶⁰			
1 Mortar and 3 Cohorns	1 sleds	1 yoke	1 teamsters
3 Cohorns	1 sled	1 yoke	1 teamsters
2 x 9 Pounders	1 sleds	1 yoke	1 teamster
2 x 9 Pounders	1 sleds	1 yoke	1 teamster
Extra Yoke	0 sleds	4 yoke	0 teamsters
Serial Total:	11 Cannons, 4 Sleds, 8 Soldiers, 4 Teamsters, 8 Yoke, Henry Knox		

Serial #3			
7 Soldiers			
3 x 6 Pounders	1 sleds	1 yoke	1 teamsters
4 x 3 Pounders	1 sled	1 yoke	1 teamsters
4 x 3 Pounders	1 sleds	1 yoke	1 teamster
Extra Yoke	0 sleds	4 yoke	0 teamsters
Serial Total:	11 Cannons, 3 Sleds, 7 Soldiers, 3 Teamsters, 7 Yoke		

¹⁶⁰ Although Knox will frequently travel throughout convoy, he states in his journal he normally resided in the second movement to set the pace and avoid bunching up with the slower moving first serial.

Serial #4			
7 Soldiers			
3 Mortars	1 sleds	1 yoke	1 teamsters
2 Howitzers	1 sled	1 yoke	1 teamsters
10 x 12 Pounder	12 sleds	22 yoke	12 teamsters
Supplies	2 sleds	2 yoke	2 teamster
Extra Yoke	0 sleds	4 yoke	0 teamsters
Serial Total:	15 Cannons, 16 Sleds, 7 Soldiers, 16 Teamsters, 30 Yoke		

Serial #5			
8 Soldiers			
William Knox			
3 Mortars	1 sleds	1 yoke	1 teamsters
3 x 6 Pounders	1 sled	1 yoke	1 teamsters
3 x 6 Pounders	1 sled	1 yoke	1 teamster
Supplies	2 sleds	2 yoke	2 teamsters
Supplies	1 sled	Horse drawn	0 teamster
Extra Yoke ¹⁶¹	0 sleds	4 yoke	0 teamsters
Serial Total:	9 Cannons, 6 Sleds, 8 Soldiers, 5 Teamsters, 9 Yoke		

Source: Created by author.

¹⁶¹ After doing my determinations on the yoke used, there were 26 yoke extra. It can be assumed that they were either used as extra, swapped out periodically as good teamsters would do, or just used for supplies.

It is important to see the estimated breakdown of Knox's movement to help illustrate the complexity of the movement and the importance of a cohesive team. At times stretching over five miles in length; he needed to utilize a decentralized approach if he was going to be successful in retrieving the guns. This breakdown is also important to assist in the visualization of the journey to come, and what difficulties had to be overcome in order to make this extremely large movement a success.¹⁶²

17th to the 24th of December 1775,
10 Miles, 7 Days

With the cannons fully loaded on the sleds, the expedition left Fort George the evening of the 17th for Glen Falls.¹⁶³ Due to the lack of snowfall on this rough terrain it took seven days to reach Glen Falls. They moved at a rate of 1.3 miles per day.¹⁶⁴ Being in the foothills of the Adirondack Mountains, Knox's convoy traveled on a lightly used foot trail suited more for horses and foot traffic.¹⁶⁵ During this segment of the trip there were instances of sleds being flipped over by falling off the steep edges on either side of the trail. This also demonstrates the teamsters had to learn to transport the heavy artillery pieces on the smaller trails, and had a steep learning curve to master. When a rollover occurred, the yoke had to be detached and reattached to the part closest to the trail and

¹⁶² This movement breakdown was completely configured for this thesis, not previously known in history. Using only the sporadic entries Knox and Becker Jr. make in their journals on the cannon configurations.

¹⁶³ Drake, 24.

¹⁶⁴ Reit, 63.

¹⁶⁵ Puls, 39.

haul the sled back to the trail using ropes.¹⁶⁶ It again demonstrated the desire to recover any cannon lost along the journey. This was also the first time rope pulleys were used to control the heavy sleds. Teamsters tied rope to strong trees, and connected a pulley system to haul the heavy sled up and down the uneven terrain. This was difficult work and required a very skilled crew. The first few times a rollover occurred, the convoy serials ahead continued to move while the serials behind the fallen cannon would stop, causing a gap to develop.¹⁶⁷ Henry proclaimed during the second night of movement when one cannon needed attention that the entire movement must stop to prevent gaps.¹⁶⁸ After a week of travel, they all reached Glen Falls on Christmas Eve. Glen Falls was a small town located on the Hudson River. The whole team spent a much needed night in the inn and slept in warm rooms for the first time since Sabbath Point on Lake Champlain, over two weeks earlier. The travel over the frozen dirt ground had been slow. Henry hoped a snowfall would assist in his efforts; on Christmas morning he got his wish.

25th to the 27th of December 1775,
22 Miles, 2 Days

Knox's convoy left Glen Falls Christmas morning, and reached Saratoga on the 27th of December. When the men woke up on Christmas morning in Glen Falls, they were all excited to see the fresh fallen snow.¹⁶⁹ The men ate their hardy breakfasts in the

¹⁶⁶ Drake, 24.

¹⁶⁷ Reit, 63.

¹⁶⁸ Ibid., 64.

¹⁶⁹ Ibid., 68.

inn and quickly hitched up and mounted their horses to start the movement.¹⁷⁰ The first test the team needed to accomplish was crossing the Hudson River.¹⁷¹ At Glen Falls, the Hudson River bends sharply 90 degrees to the right and heads due south. Knox's team needed to cross the Hudson here to stay on the main road leading to Albany. William rode ahead of the convoy and reported back to Henry the Hudson was frozen solid.¹⁷² With the snow and the temperature below freezing, the Hudson was an easy crossing. Unable to utilize the bridge outside of Glen Falls, Henry had each sled team move separately over the thick ice as a precautionary measure.¹⁷³ A cannon falling through the ice would be a disaster, and its retrieval would cost valuable time. They crossed without incident and by the end of the day on the 25th; the expedition was south of the river headed towards Saratoga. The terrain had started to flatten out, with the road parallel to the Hudson River. The fallen snow had helped the sleds to travel more quickly.¹⁷⁴ Gazing upon his noble train, Knox wrote how the white snow as a background made the images of the people appear crisp and sharp. The blue uniforms of the militiamen stuck out along with the brown wooden sleds all along the convoy.¹⁷⁵ Knox was pleased everything was going according to plan. The convoy made good time traveling the 22 miles to Saratoga in two days in the snow.

¹⁷⁰ Frothingham, 146.

¹⁷¹ Puls, 39.

¹⁷² Drew, 133.

¹⁷³ Drake, 22.

¹⁷⁴ Puls, 39.

¹⁷⁵ Reit, 70.

28th of December 1775 to the 1st of January 1776,
28 Miles, 4 Days

The men reached Saratoga by the 27th and spent the night before traveling the next morning in the snow.¹⁷⁶ Unfortunately, this is where Knox's luck changed. A few miles south of Saratoga on the 28th, the winter weather worsened. What was once a blessing now turned into a curse. The snow kept falling, and soon Knox's team was in the middle of a blizzard.¹⁷⁷ Men started freezing in the plummeting temperatures and the animals had a very difficult time crossing the snow drifts. Soon 18 inches of snow had fallen, and the expedition could not go any further.¹⁷⁸ In the late afternoon on the 28th, Henry ordered a halt to organize his movement.¹⁷⁹

A small conference was held between Henry, William, and Becker to decide what to do next. This emergency meeting took place amongst a group of pine trees which offered what little shelter was available.¹⁸⁰ It was decided Henry would ride south to cross the Mohawk River at the city of Halfmoon, and then to Albany to get additional supplies and fresh animals from General Schuyler.¹⁸¹ William would stay with the convoy and keep things together in the blizzard. Henry again displayed trust in his subordinates, and placed William in charge of the movement. William put forth a valiant

¹⁷⁶ Ibid., 68.

¹⁷⁷ Ibid.

¹⁷⁸ Drew, 133.

¹⁷⁹ Knox, *Henry Knox's Diary*, 28 December 1775.

¹⁸⁰ Reit, 68.

¹⁸¹ Knox, *Henry Knox's Diary*, 28 December 1775.

effort to make a safe place for the team and the animals in his brother's absents, proving his worth. He ordered all the animal teams to get unhooked and huddled them together for shelter against the elements. William selected a large pine grove which offered the most protection from the freezing winds and started camp with a huge fire. The men were frozen and some were starting to loose feeling in their extremities. The animals were exhausted and the horses were unable to move in the two feet of snow.

Henry reached Albany by himself on the 29th and alerted General Schuyler of the serious situation. He then purchased fresh animals and additional supplies from Mr. Palmer at Albany, to help his stranded convoy.¹⁸² Schuyler assisted Knox by sending out his wagon master with additional supplies and a platoon of troops. Together they reached his stranded movement on the 31st of December. With the blizzard stopping on the 30th, a thaw had settled in and temperatures began to rise.¹⁸³ Henry and William quickly reorganized the convoy, attached fresh animals to the heaviest guns, and allowed the ill men to rest on the wagons. Reorganized, they headed south to the city of Halfmoon. This city was located right where the Mohawk and Hudson Rivers converged. Halfmoon was a waterway trading center where these two rivers converged. The convoy had to cross the Mohawk River to reach Albany.

2nd to the 5th of January 1776,
16 Miles, 3 Days

Knox reached the frozen Mohawk River on the 2nd, and immediately began planning on how to cross the best way possible. He knew the thaw melted some parts of

¹⁸² Knox, *Henry Knox's Diary*, 29 December 1775.

¹⁸³ Reit, 73.

the frozen river, but needed to get his weary men to Albany. Henry had his team stay the night in Halfmoon to rest while he and William went ahead to scout out the Mohawk River.¹⁸⁴ The bridge at Halfmoon was too small to hold the heavier guns, so they decided to cross the frozen river. Henry selected a spot on the Mohawk that had the shortest distance to cross. With the rising temperatures, he was worried about the river not being totally frozen over. During the night Henry had William and some of the teamsters drilled holes in the ice at the selected crossing location.¹⁸⁵ This technique allowed water to rise to the surface, and freeze on top of the ice. This formed additional layers of ice to thicken the frozen river. They hoped the temperature at night would dip low enough to cause the water to freeze. Knox had not allowed the thawing river to thwart his plans and employed a rather clever technique.

This technique of drilling holes in the ice to thicken it can be contributed solely to Knox's self-taught-education in the bookstore. Knox makes no reference as to where he learned this technique, and in fact takes credit for coming up with the idea in his journal. Knox had to take initiative at Halfmoon because the bridge was too small. The thickening of the ice technique is a procedure that is still used today.¹⁸⁶ Finding out this technique is

¹⁸⁴ Frothingham, 147.

¹⁸⁵ McCullough, 84.

¹⁸⁶ Manitoba Transportation and Government Services, "Ice Testing Information," accessed 1 March 2015, <http://www.canadiandrilling.com/uploads/docs/ICE%20TESTING%20INFORMATION001.pdf>.

still used today in colder climates leads one to believe Knox learned this from living in Boston, and had utilized this technique before.¹⁸⁷

It was during the Mohawk River crossing on the 2nd of January Knox had his first and only casualty of the movement, an 18 inch iron cannon.¹⁸⁸ During the movement across the frozen river, an 18 pounder cracked the ice and fell straight through the middle of the river.¹⁸⁹ Henry found out about it while he was having his dinner in Halfmoon.¹⁹⁰ Henry decided not to retrieve the cannon and instead selected another crossing site, and continued his journey. This decision was probably made due to the ordeal his men had just gone through in the blizzard. Knox's decision to abandon the cannon differs from his previous pattern. He accepted the risk of leaving the one cannon to complete his mission and to keep his men safe. Most of the men needed to receive medical attention from the exposure to the frigid temperatures and rough terrain. Although Henry purchased additional oxen in Albany to replace the most exhausted animals, he could not replace all of them. He still had tired animals pulling the heavy cannons across the river. Nevertheless, the decision was made to leave the cannon at the bottom of the river and continue on.¹⁹¹

¹⁸⁷ Using the formula the Manitoba Transportation and Government Services utilizes Knox needed the ice of the Mohawk River to be 7 inches thick to safely crossing the heaviest cannon, the Brass 24 Pounder which weighted an estimated 4,500 lbs.

¹⁸⁸ Frothingham, 147.

¹⁸⁹ Knox, *Henry Knox's Diary*, 2 January 1775.

¹⁹⁰ Reit, 74.

¹⁹¹ The 18 pound cannon would actually be retrieved 100 years later. It was sent later to a World War II scrap dive before it was discovered, saved, and refurbished. The fallen cannon was then returned to Fort Ticonderoga where it is today. Information

With the rest of the cannons across, Henry and his team spent one more night at Halfmoon and left on the 3rd. They reached Albany which was only seven miles to the south on the 4th. Henry does not make any logs in his journal at this time, leading one to believe he was in a rush to reach the city of Albany. The convoy needed to be reorganized and his men needed the rest and break at Albany.

6th to the 10th of January 1776,
22 Miles, 4 Days

The expedition rested for four days in Albany and continued the journey on the 9th of January.¹⁹² During this time the 90 men under Knox's command received a much needed break. The men who had fallen ill during the blizzard received the medical attention they needed. Henry used this time to write to Washington on his progress. He admitted his tardiness from his original estimated time of arrival.¹⁹³ He explained to Washington the blizzard and the freezing temperatures. Knox spent additional money purchasing new sleds, fresh oxen, and sled repair parts.¹⁹⁴ Since the oxen had originally come from the Albany area, this was no problem. Some of the teamsters were also swapped out to continue the journey. Knowing the road ahead, Schuyler ensured the expedition was resupplied with food and stocked with the proper ropes and pulleys. This leg of the journey begins at Amherst Road which deviates from the main road that goes to

obtained from a phone conversation with the historical personnel that work at Fort Ticonderoga on 28 December 2014. That one 18 pound cannon would be the only of the 59 cannons to be removed ever to make it back to Fort Ticonderoga.

¹⁹² Drake, 24.

¹⁹³ Knox, *Henry Knox Papers*, 6 January 1775.

¹⁹⁴ McCullough, 84.

New York City. Schuyler knew the terrain to be very mountainous and ensured the teamsters had all the equipment they needed to accomplish this feat.

During this time in Albany, Henry, and William traveled down to the Hudson River and began the process of drilling holes into the ice once more.¹⁹⁵ He made this decision when he evaluated that the bridge in Albany could not support the heavier cannons. This time he allowed three days of ice drilling to build several layers.¹⁹⁶ Knox was concerned because the recent thaw was continuing, and another cannon breaking though the ice was quite possible.¹⁹⁷ With the expedition rested, weary animals exchanged, and the ice technique again employed on the frozen Hudson River, he felt ready to continue the journey.

The convoy left Albany to cross the Hudson on the 9th of January.¹⁹⁸ Knox had a single 18 pounder crash through the ice in the river at this crossing.¹⁹⁹ Because the breakthrough occurred close to the shore line, the teamsters were able to retrieve it.²⁰⁰ This shows a reversion back to Knox's "recovery at all costs" mentality, and it also demonstrates Knox was not under any duress which could have forced him to abandon the gun. After many townspeople from Albany came to watch and cheer on the cannon

¹⁹⁵ Ibid.

¹⁹⁶ Reit, 75.

¹⁹⁷ McCullough, 84.

¹⁹⁸ Philback, 270.

¹⁹⁹ McCullough, 84.

²⁰⁰ Drew, 134.

extraction, the 18 pounder was then ceremonious called the “Albany.”²⁰¹ Aside from the incident with the Albany the convoy crossed the frozen river without further problems.

Continuing south from the Hudson River, Knox’s team moved rapidly to the Berkshire Mountains. They quickly reached the town of Kinderhook on the night of the 10th, which laid at the foothills of the Berkshires.²⁰² Henry’s team made adequate time on this leg of the journey, having crossed 22 miles in four days. Neither Knox nor Becker Jr. made any journal entries at this time. Based off the distance of 22 miles, and the journal entries he makes in Albany on the 9th and in Kinderhook on the 10th, one can presume the travel went without serious event.

With the Berkshires now staring down at them, the teamsters had to be ready for what awaited them. The first 10 miles of the mountainous trail went through the Green Woods. The trail bent and curved in order to avoid both the sharp drops of the mountains and the larger trees of the dense forest.²⁰³ This terrain was much more rigid and difficult to traverse then the areas surrounding Lake George. This trail might have been acceptable for foot traffic and small wagons drawn by horses, but it was going to be extremely difficult for yoked oxen hauling massive brass cannons.²⁰⁴

²⁰¹ Frothingham, 147.

²⁰² Philback, 270.

²⁰³ Drew, 157.

²⁰⁴ McCullough, 84.

11th and 12th of January 1776,
23 Miles, 2 Days

On the 11th, Knox's team left Kinderhook and entered the treacherous Berkshire Mountains. The greatest challenge traveling uphill was it quickly tired the animals.²⁰⁵ When the animals reached exhaustion, they had to be disconnected from the sleds to rest. Soon the movement slowed to a crawl, and the teamsters become very discouraged at their slow progress. The teamsters had to cut down smaller trees out of their way to make the movement easier for the heavy cannons. Already the Berkshires had proved how difficult this journey would continue to be.

A few miles into the Berkshires the teamsters had come up with a new plan to get the cannons up the steep hills. Instead of having the oxen drag the sleds up normally; the teamsters unhooked the animals and brought them up the hill separately.²⁰⁶ Then they attached the sled at the bottom of the hill with ropes and pulleys and attached it to the free yoked oxen.²⁰⁷ The pulley system multiplied the strength of the oxen and allowed them to achieve this difficult task. It also required the teamster crews from three separate sled teams, to move one sled up a hill based on this new configuration.²⁰⁸

This pulley process worked but it was labor intensive, and also very dangerous. A mortar had broken loose from its ropes while being heaved uphill had crashed into the men at the bottom of the hill. Becker Jr. was at the bottom of the hill and had to jump out

²⁰⁵ Puls, 41.

²⁰⁶ Billias, 241.

²⁰⁷ Ibid.

²⁰⁸ Ibid.

of the path of the runaway piece.²⁰⁹ No one was injured but it caused a considerable stir in the men. Soon the teamsters became very frustrated with this procedure. Knox recommitted his team through trust, and assured them that this was an important mission for their cause. He explained to the frustrated men they were doing a very noble act.²¹⁰ Knox had recommitted his team through his leadership and trusted their ability to come up with this technique as they descended the Berkshires.

On the night of the 11th, a fresh snowfall occurred which helped the movement of the cannons in the Berkshires. Knox wrote in his journal that as he gazed upon the view on the mountain tops “he thought he could see all of eternity.”²¹¹ These elevations were probably the highest points he had ever reached at this point in his life. It also exemplifies how truly difficult the terrain was in the Green Woods of the Berkshires. As the expedition continued through the high elevations, they entered the town of Hillsdale and stayed the night. This New York town fell between the colony boundary of New York and Massachusetts. At Hillsdale, the men and women of the town welcomed the expedition as they entered.²¹² News traveled fast in colonial America, and the word got out on Knox’s journey.²¹³ The feat now started to reach the towns and villages along the route they were taking. For the rest of the journey, Knox and his convoy stayed in a town or village for the night. Henry now had the security of local towns to seek shelter if

²⁰⁹ Reit, 76.

²¹⁰ Knox, *Henry Knox’s Diary*, 11 January 1775.

²¹¹ Ibid.

²¹² Frothingham, 148.

²¹³ Joseph Meany, *The Noble Train of Artillery* (2000), 4, CARL Library, eBSCO Host.

needed. The freshly fallen snow had helped the expedition considerably in gaining momentum on their progress while in the Berkshires.

12th to the 17th of January 1776.
59 Miles, 5 Days

Knox left Hillsdale on the 12th and continued his journey out of the Berkshires into western Massachusetts. The road from Hillsdale to Otis, Massachusetts widened out and made the movement easier for the men. The convoy stayed the night in Otis, and left on the morning of the 13th for Westfield. In Westfield, the townspeople became so excited when they saw the cannons they asked if they could fire one off. As they were bedded down on the evening of the 13th, Knox selected a 13 inch mortar and fired it. He only used powder with no shot, and it drew the attention of the entire town. Soon everyone was cheering on the expedition for their accomplishments after finding out they came all the way from Fort Ticonderoga.²¹⁴ Knox used this mortar frequently as he entered the patriotic towns leading to Boston, and nicknamed the mortar “Ol Sow.”²¹⁵ It is interesting to note that Knox came across Samuel Adams while traveling through Massachusetts at this time. Adams made a note of it in his journal, and the dates and times correlated with Knox’s journal.²¹⁶ The expedition had safely made it through the

²¹⁴ Billias, 243.

²¹⁵ Adams, *Samuel Adams Papers*, 10 January-15 February 1776.

²¹⁶ This correlation with Adams and Knox assisted me in determining the exact place and time of Knox’s movement in Massachusetts since he does not make as frequent entries in his journal due to the lack of events taking place. It is also assumed Knox would out run any letter he would have written to either Washington or Lucy at this time.

terrain of the Berkshires, and had reached the favorable road networks with a supportive population.

The next morning on the 14th, the men left Westfield for the large trading city of Springfield. This city was the previously agreed location where Becker and his teamsters would part ways. Knox selected Springfield as the location for the separation knowing it had incredible markets and a growing industrial base, making it easy to find a replacement team.²¹⁷ The people of Springfield were happy to see the expedition enter the city.²¹⁸ Being out of the Berkshires meant the worst was over for the expedition.²¹⁹ Becker had proved his worth to Knox's team and brought him within 91 miles of his destination.

Knox stayed in Springfield for three days, and hired Solomon Brown to be the head teamster to take him to Cambridge. Brown was a veteran of the French and Indian War and knew the road networks and animal push transports very well. He was heavily involved with local trading since the war ended in 1763, and found the bustling markets of Springfield very pleasing. Based off of Knox's intent he quickly found the suitable men, oxen, and horses needed to fit the already configured sleds. According to Henry's journal entries he and his teamsters worked for two continentals a day and were paid accordingly.²²⁰ Brown had no issues taking Knox to Cambridge, and was ready to go by the 17th. Being the patriot he was, Brown later joined Knox's artillery unit as a

²¹⁷ Puls, 43.

²¹⁸ Frothingham, 148.

²¹⁹ Drew, 135.

²²⁰ Knox, *Henry Knox's Diary*, 16 January 1775.

Lieutenant and fought with him throughout the Revolutionary War.²²¹ Brown was the competent man Knox needed to complete the mission.

17th to the 20th of January 1776.
91 Miles, 3 Days

With the expedition reorganized with Brown's animals, Knox set off for Cambridge. He traveled the last 91 miles quickly, not even taking time to make notes in his journal. His crew traveled through the cities of Wilbraham and Brookfield along the Amherst Road. On the 20th they reached the city of Worcester and he was reunited with Lucy, and again saw his old friend Samuel Adams.²²² Henry put on a show for the townspeople and brought out Ol Sow to be fired for the people to see and hear. The convoy did not stay long, and was soon off again to Framingham which was only 15 miles outside of Cambridge.²²³ At Framingham on the morning of the 22nd, Henry rode off to Cambridge alone to report in to Washington.²²⁴ William led the rest of the movement and reached Cambridge on the 24th. Brown had shown enough competence that Knox trusted him and his brother to handle the rest of the movement.

Henry Knox had accomplished what he had set out to do. He transported the cannons from Fort Ticonderoga to Cambridge, for them to be utilized in an army which had none. The 58 cannons were delivered to be used for the Colonial cause, and

²²¹ Drew, 135.

²²² Frothingham, 148.

²²³ Ibid., 150.

²²⁴ Ibid.

Washington was pleased.²²⁵ Henry finally found out about his promotion to Colonel and his new position as the Continental Army's Chief of Artillery.²²⁶ He demonstrated both his competency and his adaptable leadership leading this movement. Several times along the way it looked like all hope was lost, yet Knox kept things together and focused his men. In the blizzard, he was not ashamed to seek help from the doubting and condescending Schuyler. In the Berkshires, he motivated his men who were on the brink of quitting. Knox had accomplished this endeavor with experienced people like Becker and Brown. He allowed their talents to shine by giving them his intent to be accomplished. Without knowing, he shut down all his doubters who expressed their displeasure to Washington on Knox's appointment.²²⁷ Knox's achievement gave Washington the arms and flexibility to turn the tide of the siege at Boston.

²²⁵ Drew, 136.

²²⁶ Puls, 38.

²²⁷ Frothingham, 149.

CHAPTER 4

MISSION COMMAND CORRELATIONS IN HISTORY

The purpose of this chapter is to analyze the usage of the six principles of Mission Command throughout the Noble Train of Artillery expedition. A brief definition will be given for each principle, followed by an explanation of how Knox implemented it during his expedition. Analysis will be made on principles which Henry performed well. An analysis will be conducted on those principles Knox failed to implement, and how he could have had a more successful operation if he utilized them. Factual evidence will be used to highlight key events during the expedition, thus allowing correlation of events with Knox's use of the fundamental premises of Mission Command. Finally, this chapter will demonstrate if the principles of Mission Command can aid in successfully accomplishing future operations.

Building Cohesive Teams through Mutual Trust

Organizations need to be built on trust; without it they are weak and collapse at the first sign of turbulence. Everyone remembers working for that one boss who believed and trusted in his people. Your best effort was given in all assignments and projects. People feel empowered when their boss trusts in them to accomplish tasks. This demonstrates just how critical trust is to team building. This subsection will examine Knox's demonstration of the use of building cohesive teams through mutual trust. The historical examples of the utilization of the principle will be displayed as they occurred chronologically during the expedition.

Army doctrine defines mutual trust as the shared confidence among commanders, and subordinates.²²⁸ In organizations built through mutual trust, a cohesive team is developed.²²⁹ Team building is a result of this action with all partners trusting the one another to accomplish the mission. This trust also fosters a unity of effort to be established where all members collectively accomplish specified objectives.

It was clear that Knox possessed a strong ability to build cohesive teams, as evidenced by three distinct actions he took during the expedition. First, he was able to successfully organize the expedition into separate movements; then he trusted his subordinate brother William to take command in his absence on two separate occasions; and finally by allowing the teamsters to execute the mission in the Berkshires with minimal interference. Through these three examples of cohesive team building, Henry showed he had mutual trust with his subordinates which is a major characteristic of this Mission Command principle.²³⁰

The best example Henry provided in building cohesive teams was through his decentralized approach in separating his movement.²³¹ He had to have trusted his men in executing the mission by allowing them to operate independently in this manner. Due to the sheer size of the movement utilizing the narrow road networks, the movement had to be split into manageable groups.²³² Had Henry attempted to combine the movement into

²²⁸ Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-4.

²²⁹ Ibid.

²³⁰ Ibid.

²³¹ Philback, 270.

²³² Drew, 153.

one large group with him giving all the orders, he would have been completely overwhelmed. The expedition would have suffered as a result because the convoy would not have been able to move with the speed required to accomplish the delivery of the cannons in a timely manner. This evidence presumes that if Henry had tried to be everywhere at once, he would have failed to command the formation. He trusted the leaders of each movement to follow his guidance, and maintained this decentralized approach for the entire 300 mile movement.²³³ Knox demonstrated he trusted his men to accomplish the task without him having to physically watch over their every step. This reinforced their trust in him as the leader, and contributed to the formation of a cohesive team. Trusting his men to operate in a decentralized movement when no other formation would have worked proves how critical it is to allow trust to flow through an organization.

The second example of the establishment of mutual trust was Henry's reliance on his brother William to lead in his absence. On both the movements on Lake George and during the blizzard, William exhibited that he had earned Henry's trust by commanding in his absence. He appointed William to take charge of the small fleet while he sailed ahead in his piragua to Fort George to prepare the land movement of the expedition.²³⁴ By Henry sailing ahead and preparing the next phase of the expedition, he saved valuable time and allowed Becker to organize the expedition based off the plan. This allowed Henry again to focus on the overall mission and to write correspondence letters to

²³³ Ibid.

²³⁴ Knox, *Henry Knox's Diary*, 13 December 1775.

Washington updating him on the expedition.²³⁵ The information Washington obtained from the positive progress of Knox's mission had strategic impacts to the Continental Army in Cambridge.²³⁶ With this knowledge, Washington was able to anticipate and start the necessary planning of a bombardment of Boston to expel the British.²³⁷ William was trusted in the execution of the water movement, and allowed critical information to be disseminated to the strategic level. Without mutual trust in his subordinates, Henry would not have been able to accomplish more pressing tasks. Knox always kept his focus on the larger task at hand and had the trust in William to command in his absence.

On the 28th of December a blizzard had stopped the movement of the expedition.²³⁸ A small conference occurred between the two Knox brothers and Becker on what to do.²³⁹ It was decided Henry would ride to Albany to receive help while William commanded the stranded expedition. It is important to note here that Knox makes reference of this conference in his journal.²⁴⁰ He held a collaborative meeting where he gathered information from his leaders, took their suggestions, and made a decision after gaining a better understanding of the current situation. Knox trusted William to take command in his absence knowing he would lead the men at this dire time. Henry decided to ride to Albany by himself after he collaborated with his

²³⁵ Puls, 38.

²³⁶ McCullough, 81.

²³⁷ Ibid.

²³⁸ Reit, 68.

²³⁹ Drew, 133.

²⁴⁰ Reit, 68.

subordinates on the best course of action to execute.²⁴¹ This meeting was more than just Knox giving commands without input to his subordinates. Although Henry failed at creating a shared understanding during the expedition, it is interesting to note here that he seemed to possess the desire to obtain it at this conference. The ability to create an understanding was a weakness he would develop and improve upon in later years. Henry knew his brother would provide a valiant effort in creating a safe place for the expedition during the blizzard. William gathered all the men and animals together and started a huge fire in the pine forest to prevent his men from getting frostbite.²⁴² This action justified Knox's complete faith and confidence in his brother and by extension the other leaders, to command in his absence, allowing him to assume risk by riding to Albany alone to retrieve help.

Finally, faith was placed on the teamsters by Knox to accomplish their job, revealing a high degree of trust existent between them. Becker's teamsters were very experienced when it came to the movement of heavy cargo in upstate New York, probably the most experienced group of men in the region for that specific task.²⁴³ During the movement through the Berkshire Mountains, the teamsters were allowed to develop a plan on getting the heavy guns up and down the rugged hillside using a rope and pulley system.²⁴⁴ Knox did not doubt their ability, and allowed them to implement a

²⁴¹ Ibid., 69.

²⁴² Drew, 133.

²⁴³ Ibid., 158.

²⁴⁴ Reit, 76.

creative solution.²⁴⁵ Knox knew the teamsters were doing the best they could given the rough terrain and the small amount of progress made. Knox thus established trust by allowing them the leeway to execute their difficult assignment. He understood the terrain was difficult, and had the confidence his men would figure out the best way to transport the cannons. Without this implicit of trust, he might have interjected at the first sign of trouble with his own ideas that may or may not have worked. By believing in his men's abilities to get the job done, he also gained their trust.

After the second day through the Berkshires, the teamsters became frustrated with their progress.²⁴⁶ Knox was able to encourage his men to keep going, stressing the importance of their task.²⁴⁷ He was able to convince his men to continue because he established a cohesive team that trusted one another. Knox believed his men could get the job done while the teamsters trusted that he understood they knew what they were doing. The teamsters also knew Knox was not trying to get them injured, and showed concern for their wellbeing. Henry was able to defuse this situation due to the mutual trust he developed with his men.

Without a climate built on mutual trust, Knox would not have had the faith or confidence in the teamsters or William's ability to accomplish the mission. Henry allowed his men to accomplish their tasks without having to be everywhere at once. This decentralized approach worked due to serial leaders being able to be trusted they could

²⁴⁵ Puls, 41.

²⁴⁶ Meany, 4.

²⁴⁷ Knox, *Henry Knox's Diary*, 11 January 1775.

make the proper decision on the movement of the guns. By demonstrating an ability to build a cohesive team, Henry was successful in bringing the cannons to Cambridge.

Henry Knox built a cohesive team based on trust. He allowed his men to accomplish their tasks without having to micromanage. He also respected and trusted his men enough to allow them to determine the best way to transport the cannons across the rough terrain of the Berkshires. Knox allowed a freedom of innovation amongst his men that helped foster trust within the organization. This trust allowed him to diffuse a situation where the men doubted the mission, and almost abandoned the expedition. Henry also had full faith and confidence in his second in command, William, to lead when more pressing matters appeared. Although Henry demonstrated how creating a cohesive team can be valuable, he did not disseminate the understanding of the mission to everyone. This failure will be examined in the next section. However, a cohesive team was established through multiple efforts made by Knox.

Create a Shared Understanding

When organizations can openly communicate on tasks and plans, it fosters a common picture to be developed. No one wants to be the one to ask the stupid question, but sometimes the stupid question is the best one that needs to be asked. Being in an environment which allows this kind of communication and dialog to occur, benefits the organization. When strong dialogs are established and information is transmitted, personnel in any organization have a better overall sense with what is going on. This leads to better decision making, and a shared understanding being achieved. This subsection will examine the demonstrations of creating a shared understanding that took place during the expedition. Unity of effort is established through constant collaboration

and dialog between the commander and the subordinates.²⁴⁸ This allows information sharing to take place, facilitating a common picture or understanding of the problem and approach to the solution. Open dialog benefits members of a team by allowing them to understand all the aspects of an operation.

The creation of a shared understanding was not demonstrated in a successful way during the mission. Knox revealed a weakness in his inability to create a shared understanding, by not having an open collaborative environment with his men. He does exhibit a glimpse of this trait when he communicates with Schuyler on the conduct of the mission. This is far overshadowed by his inability to allow open communication to exist between him and his men on the execution of the mission. Knox's men were unaware of their roles and functions and did not have a proper dialog with Henry to discuss the operation. This dialog is one of the major aspects of developing a shared understanding.²⁴⁹ A shared understanding involves open communication and dialog between all leaders involved.

A lack of collaboration between the teamsters and Knox led directly to the expedition becoming snowbound in the forest outside of Albany. Although he communicated to his men his desire of reaching Cambridge, he did not foster an open collaborative effort with their input. Being that the teamsters were from this region, they should have been aware of the strength of snowstorms in this area. There is no evidence to suggest that Knox took the time to ask the local teamsters about the weather. Neither did the teamsters take the initiative to let the Boston native, who was unfamiliar with the

²⁴⁸ Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-6.

²⁴⁹ Ibid.

area, know about the strength of the snowstorms. The failure to achieve a collaborative effort to foster a shared understanding led to a near disaster, and almost cost Knox the entire mission.

A shared understanding takes time to develop.²⁵⁰ In the defense of Knox and the expedition, Henry had only had been working with the teamsters for 20 days by the 27th of December.²⁵¹ It is not evident either party had adequate time required to achieve this level of shared understanding consistent with what expectations of current doctrine would demand.²⁵² Regardless, this proves the importance of creating a shared understanding in any organization. Without baseline knowledge of understanding, especially in decentralized formations, partners will often assume too many things and not truly know the details or background behind their partner's efforts.

It is also presumed the teamsters knew about the severity and strength of lake effect snowstorms because they were native to the area. It is not evident why the teamsters did not voice their opinion to Knox when they left Saratoga in the snow.²⁵³ At this time, it had already been snowing for two days straight.²⁵⁴ Maybe the teamsters just

²⁵⁰ Ibid., 2-5.

²⁵¹ Knox, *Henry Knox's Diary*, 16 January 1776.

²⁵² Based off of the amount of time Knox and Becker had been working together, I did not feel 20 days was enough for an adequate shared understanding to be created. The ADRP does not mention a specific amount time needed to develop, but its description suggests it takes more than just a month. Because army doctrine seemed to give Knox an out here, it was concluded regardless of Knox's ability or inability to create a shared understanding, its principle is still vitally important.

²⁵³ Reit, 68.

²⁵⁴ Ibid.

concluded it was a small storm, and their leader would know better than to depart the city if it was dangerous. While Knox reasoned if there was any danger in the acuminating snow, the teamsters would have spoken up about it. Both groups (the Knox brothers and the teamsters) believed the other had the necessary facts for decisions; hence a shared understanding was not achieved. Knox makes no reference in his journal, before or after the incident, of obtaining any information from his men on the local weather patterns.²⁵⁵ It was obvious there was no collaborative effort being accomplished to form a shared understanding between Knox and his teamsters, during the entire expedition, even though they seemed to have a good relationship.

The shared understanding which existed between Schuyler and Knox does reveal some positive evidence of this principle of Mission Command being exhibited. Here Henry shows promise in being able to develop this trait, as he will successfully demonstrate later in his life. Both Knox and Schuyler understood the importance of the mission, and the requirements necessary to accomplish it.²⁵⁶ Although Schuyler may have had misgivings on the mission itself, both set aside their differences and collaborated together very well in the accomplishment of the mission.²⁵⁷ It was through this collaboration, which took place over five days, that a clear shared understanding was reached between the two men.²⁵⁸ Knox agreed to the idea on the sleds, and also accepted

²⁵⁵ Knox, *Henry Knox's Diary*, 3 January-16 January 1776.

²⁵⁶ Puls, 40.

²⁵⁷ Ibid.

²⁵⁸ Ibid., 36.

Becker and his men into his expedition.²⁵⁹ Knox and Schuyler remained on the same sense of common understanding throughout the expedition. Maybe it was due to Schuyler's military background and his ability to communicate using mission orders that this common picture was established between the two men. Schuyler was a career military leader dating back to the French and Indian War.²⁶⁰ Schuyler also understood the severity of events when Knox reached Albany on the 28th, with the news that the expedition was stranded in the snowstorm.²⁶¹ Both men knew the severity of the situation and acted accordingly to save it with little argument.

It is important to learn from the failures when there is not a shared understanding created, so we can better ourselves and our organizations. Partners may make faulty assumptions as to what their counterpart is responsible for, possibly causing a disaster. Without a shared understanding, there is no common ground or baseline on which people can operate or communicate. Without the ability to collaborate to achieve this understanding, people become isolated. When counterparts are not able to take part in a collaborative environment, the best practice is not always adapted. The collaborative efforts are vital to create an understanding to ensure both sides know what the other knows. A shared understanding involves open communication between all leaders involved.

²⁵⁹ McCullough, 83.

²⁶⁰ Phillips, 245.

²⁶¹ Puls, 36.

Provide a Clear Commander's Intent

This subsection will examine Knox's demonstration of providing a clear commander's intent. ADRP 6-0 defines a commander's intent as clearly and concisely communicating the purpose, key tasks, and desired end state to subordinates in the accomplishment of a mission.²⁶² Commander's use this intent to express the overall broader end state of the mission and allow their subordinates to execute the mission accordingly. This fosters creativity and allows subordinates to freely act in the best method to accomplish the task.

There were three occasions during the convoy where Knox demonstrated an ability to communicate a clear intent: when he gave his guidance on the conduct of the mission with Becker, the formation of the expedition into separate serials at Fort George, and when he hired Brown to lead the final stage of the movement at Springfield. Knox provided in all three cases a clear purpose, tasks, and end state which are key components of a commander's intent.²⁶³ Without this concise intent, the men would have been uncertain of the desired end state the mission required. Knox's men executed based off his intent, and achieved success because of it.

John Becker received a very clear intent from Knox when he originally met him on the 5th of December. After receiving this intent, Becker knew exactly what needed to occur, and the best way to accomplish it.²⁶⁴ Knox allowed Becker the flexibility to execute based off his end state. He fully supported Becker's plan by financing the

²⁶² Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-12.

²⁶³ Ibid.

²⁶⁴ Drew, 127.

procurement of the sleds.²⁶⁵ Henry never forced his own opinion over the planning efforts of his subordinates after he provided his intent. Had Becker provided a faulty plan, Knox would have refined his intent and provided additional key tasks. Since Becker knew the most efficient way possible to execute the mission, Henry agreed to the plan. There seemed to be a strong trust relationship present between the two men as well, which helped foster this intent to be disseminated successfully. Additionally, Knox displayed the ability to not micromanage his subordinates after he communicated his desire, further allowing his subordinates to execute. By being able to communicate a clear intent, Becker understood the mission given to him and executed accordingly.

A second example of a clear intent being disseminated occurred on the 13th of December when Knox required his expedition to assemble into five serials. This formation was based on the amount of cannons procured from Fort Ticonderoga.²⁶⁶ Knox had sailed ahead while on Lake George to deliver his intent to the waiting expedition at Fort George.²⁶⁷ A brief, concise, verbal order was given for the teamsters to execute. His intent called for the movement to be broken in five separate serials, with the heaviest cannons in the first serial to set the pace.²⁶⁸ These two key tasks were communicated to Becker for him to execute the most efficient way. Knox allowed Becker to come up with the manning details of the formation while he sailed back to rejoin the men. Becker then got to work having his most experienced crew in the first serial which possessed the

²⁶⁵ Knox, *Henry Knox's Diary*, 17 December 1775.

²⁶⁶ Philback, 270.

²⁶⁷ Knox, *Henry Knox's Diary*, 13 December 1775.

²⁶⁸ Philback, 270.

heaviest cannons. After his intent was given, Knox rejoined his men who were currently navigating down Lake George.²⁶⁹ He gave his guidance, then allowed Becker the freedom to figure out the best possible formation for the expedition to be successful. This was a clear example of the Mission Command principle of providing a clear commander's intent being utilized by Knox.

Finally, when a new teamster crew was hired in Springfield, a clear intent was transmitted on how the expedition needed to get to Cambridge. After Becker's team departed back to Albany, Knox searched for a new group of teamsters in the industrial city of Springfield.²⁷⁰ Here he met Solomon Brown, and provided him his intent. Knox instructed Brown to transport the cannons to Cambridge, keep his forces in the prearranged five serial formation, and provide his own animals to draw the cannon mounted sleds.²⁷¹ Brown clearly understood what the purpose, key tasks, and the end state were for this mission. Knox again allowed the lead teamster to figure out the best possible way to solve this problem without getting in the way. Brown quickly proceeded with the mission, and successfully transported them the remaining 91 miles to Cambridge. Brown had no issue in accomplishing this task, and reached Cambridge with the guns in only three days after receiving the mission.²⁷² Knox demonstrated his use of

²⁶⁹ Knox, *Henry Knox's Diary*, 13 December 1776.

²⁷⁰ Knox, *Henry Knox's Diary*, 16 January 1776.

²⁷¹ Ibid.

²⁷² Brown will cover over 30 miles per day in those three days, the fastest Knox's expedition will travel throughout the entire expedition.

commanders intent in describing to Brown his vision of successfully bring the guns to Washington.

A natural ability to provide a clear intent on the mission to be accomplished was strongly demonstrated throughout the expedition. Henry never meddled into his subordinates' planning efforts, and allowed them to execute the operation in a decentralized approach. Knox made such an impression on his men, some even volunteered to serve with him throughout the war. Knox seemed to possess a natural ability to communicate what needed to be accomplished in a clear manner and allowed his subordinates to execute. He also revealed an ability to allow those subordinates under him to achieve success through his leadership style. Henry seemed to be a natural leader, with his subordinates having a strong desire to continue to work for him. Knox successfully demonstrated the premise of disseminating a clear intent which allowed his subordinates and the mission to be successful.

Exercise Disciplined Initiative

Organizations and leaders, who act in the absence of orders, show the confidence and audacity to effectively lead others in times of uncertainty. There will not always be a clear picture, or clear orders instructing a leader on what to do. Initiative becomes critically important to leaders on any level, and in any organization. The exercise of disciplined initiative is another key tenet of Mission Command. This is found in military leaders for their desire to act in the absence of orders. Executing a plan without being told to do so, is that keen initiative found in so many great leaders. The purpose of this subsection is to examine the demonstrations of exercising a disciplined initiative. Army

doctrine defines exercising a disciplined initiative as an action in the absence of orders.²⁷³

Based off of the commander's intent of how the mission is to be accomplished, subordinates act within the parameters to accomplish the mission.²⁷⁴ Subordinates take the initiative to seize unforeseen opportunity acting in accordance with the commander's intent. They allow their commanders to focus on the overall mission, freeing them of the burden of asking for guidance when the opportunity arises.

Possessing a disciplined initiative was a strength Henry possessed during the expedition. It demonstrated at two critical times during the mission. If Knox had failed to act in either case, the expedition would have been a failure. If an experienced boat crew was not hired at Lake George, there was a high chance someone in the expedition could have been seriously injured by having an improperly loaded vessel sink with its heavy cargo. If he had not thought of a plan to cross the Mohawk and Hudson Rivers using the ice drilling technique, his expedition would have been stranded. Action was required in both instances, and Knox delivered. Being able to take action when the time required it, is a key attribute of possessing a disciplined initiative.

Disciplined initiative was also a trait Knox's subordinates demonstrated as well. William and the teamsters revealed this trait during the movement, providing the evidence that Knox encouraged free thought and action with his team based off his intent. William took charge during the blizzard for two days and minimized the exposure of the freezing temperatures of the blizzard to the men. The teamsters revealed they took the initiative as well when they employed the rope and pulley technique on their own design

²⁷³ Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-16.

²⁷⁴ *Ibid.*, 2-18.

while in the difficult terrain of the Berkshires. Both instances indicate Knox fostered an atmosphere with his subordinates to act within his intent on their initiative.

The hiring of the experienced boat crews is a great example of how a disciplined initiative was shown during the movement. The expedition navigated 66 nautical miles over these two lakes.²⁷⁵ Hiring an experienced boat crew was critical for the expedition to succeed, due to the lack of boats and water transport expertise present, but was an unanticipated logistical requirement that Schuyler had not arranged. On the return trip back from Fort Ticonderoga numerous loaded vessels were required to carry the heavy cannons over the lakes. This crossing was very dangerous not just to the men, but risked losing the valuable cargo in the process. Captain Johnson and Mr. Holmes were hired in Fort George by Knox after he realized he required their expertise in navigating the lakes. The boatmen brought their crews and their boats to transport Knox's men, and also ensured the boats were configured properly. If the boats were improperly loaded with the heavy cannons, there was a very good chance of losing the entire cannon to the deep lake. Knox realized he had a challenge facing him on the lakes. He took it upon himself to hire the crews and allowed his expedition to safely cross the lakes without harm falling on his men and equipment.

When the holes were drilled in the ice on the Mohawk and Hudson Rivers, a disciplined initiative was again positively exemplified. Knox took this initiative, so his men could cross safely. Knox does this technique on his own initiative when he realized the bridges over the rivers will not hold the heavy cannons. This problem did not have a solution until he used his creativity to solve it. In this absence of orders and guidance

²⁷⁵ Puls, 33.

Henry took the initiative and thickened the ice allowing his men to cross safely. Although there would be instances of cannons falling through the ice, Henry's initiative allowed the expedition to better overcome the dangerous crossings.

It is interesting to note that William also possessed a disciplined initiative when he commanded the snowbound movement, in accordance with Knox's intent. William took charge of the movement in the blizzard while Henry rode off to Albany to receive help.²⁷⁶ William acted in the absence of orders and had all members of the stranded movement detach the oxen and gather around a raging fire.²⁷⁷ William had some of the large pine trees of the forest cut down to fuel the growing fire to warm the men of the stranded expedition. William had to act in this dire situation which had placed the entire expedition in jeopardy. Over two feet of snow fell on the men in a period of 36 hours since they left Saratoga.²⁷⁸ William took action for the safety of the men, and the livestock, as both the snow and the temperature kept falling. This action reveals that Knox encouraged his subordinates to act within a disciplined initiative, according to his intent. This historical example again shows the premises of Mission Command in successful action in events of the past.

Lastly, another action of Knox's subordinates demonstrating disciplined initiative was when the teamsters utilized the rope and pulley system in the Berkshires.²⁷⁹ With the Berkshires being some of the most treacherous terrain of the expedition, the teamsters

²⁷⁶ Reit, 70.

²⁷⁷ Ibid.

²⁷⁸ Knox, *Henry Knox's Diary*, 28 December 1776.

²⁷⁹ Billias, 241.

were put to the test. Without being told how to transport the guns through this terrain, the teamsters employed a technique to safely haul the guns up, and then down the mountainous trail.²⁸⁰ This ability was demonstrated completely by the teamsters own creativity, and without guidance from Knox. After 48 hours of employing this technique, the teamsters became frustrated with their slow progress. Knox is able to calm them down, and reinforced his trust he had with them and their plan.²⁸¹ This reinforcement seemed to have been effective because the men resumed this intricate technique, and soon reached the town of Kinderhook the next day.²⁸² This historical example reveals yet again, how Knox's subordinates were empowered to take the initiative to accomplish the mission. That fact that Knox reinforced their desire to continue employing their strategy, gives further evidence he encouraged creativity with-in formation. Knox fostered an atmosphere of disciplined initiative allowing his subordinates to act within his intent.

A strong disciplined initiative was displayed by Knox and his men during the movement. Experienced boatmen were hired on Henry's initiative to allow a safe passage of the waterways. The drilling technique allowed the cannons to cross the thin ice of the Mohawk and Hudson Rivers. Lastly, Knox's own men demonstrated a capability to possess their own initiative acting within Knox's intent. This trait lead to success everywhere it revealed itself during the mission. Without this initiative seen throughout, the expedition would have been a loss.

²⁸⁰ Knox, *Henry Knox's Diary*, 11 January 1775.

²⁸¹ Ibid.

²⁸² Ibid.

Use Mission Orders

The first step in the Army's Military Decision Making Process is the receipt of the mission. The mission itself provides critical information and serves as a reference for additional planning to occur. Orders are critical for lower units to operate from and are an enduring premise in military planning. Knox was not a career soldier at this time in his life, and might have found written orders alien to him. The five paragraph order was not in existence in December 1775. This critique on the use of Mission Orders is how Knox could have improved the journey by using them, rather than his lack of using an unknown method. ADRP 6-0 defines the use of mission orders as assigning tasks, resources, and directives on what needs to be achieved.²⁸³ Commander's issue the written orders, and supervise when needed in the execution of the mission.²⁸⁴ The written orders use the five paragraph format detailing the operation for the subordinates. At a minimum, the purpose, mission, intent, concept of the operation, and required sketches or overlays are included in the order.

Although not considered a written order, his written correspondence to Washington was critical. Knox wrote two valuable letters to Washington during the movement, one at Lake George on the 17th of December providing the detailed list of the fifty-nine cannons he procured from Fort Ticonderoga.²⁸⁵ He also claimed in this letter he would return to Cambridge on the 2nd of January.²⁸⁶ In the second letter Henry wrote to

²⁸³ Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-20.

²⁸⁴ *Ibid.*, 2-21.

²⁸⁵ Knox, *Henry Knox's Diary*, 17 December 1775.

²⁸⁶ *Ibid.*

Washington on the 6th of January while in Albany directly after the blizzard he admitted his movement would be late.²⁸⁷ These two written letters were critical knowledge to Washington, who was concerned over the current status of this difficult task being completed.²⁸⁸ These written documents although technically not mission orders, allowed Washington to know the progress Knox had made, gave him a strategic understanding of the operational environment his army was in. These letters also provided him and his staff hope at a time when things were looking dim for the Continental Army back in Cambridge.²⁸⁹ This revealed the value and potential of written information contributing to the success of a mission. Although not true written orders, these written correspondence letters were beneficial to the mission being a success.

If Mission Orders were utilized during the expedition, it would have led to a more successful operation. There was no evidence to suggest Knox ever wrote a single order to his men during the entire movement. Henry wrote letters to Washington and his wife Lucy throughout the expedition, and used only verbal orders to his men.²⁹⁰ If Knox used the time to write to his wife on drafting an order, he would have had a much smoother operation. Evidence suggests if he had issued Mission Orders to his men, the convoy might not have been stranded north of Albany. With a brief issued order, Knox could have laid out the route to be taken with a situation paragraph included. This paragraph could have given valuable information on previous historical weather patterns in the area

²⁸⁷ Knox, *Henry Knox Papers*, 6 January 1775.

²⁸⁸ Puls, 38.

²⁸⁹ McCullough, 81.

²⁹⁰ Drake, 24.

or inferred that he did not have knowledge of those weather patterns. The order could have had a map clearly showing the route the men would take, which might have allowed greater anticipation of the upcoming challenges by his subordinates. This map could have allowed the men to possess the situational awareness to understand it was over sixteen miles to reach the town of Halfmoon from Saratoga.²⁹¹ Knowing this information, when the expedition left Saratoga during the second day of snowfall, could have led his teamsters to speak up about the dangers of traveling to the next destination. Knox could have used his written mission orders to better disseminate his “where and why” to the men on the expedition. Perhaps the action of writing an order could have revealed gaps in knowledge and planning to Knox and led to a more proactive collaboration with his subordinates to fill those gaps.

Mission Orders were not utilized at all during the expedition. Henry only issued verbal intent at the beginning of the mission but provided no further contract or map showing the operation in detail. Knox did not even produce a basic order to issue to his men showing the “who, what, where, why, and how” which form the premise of this Mission Command principle.²⁹² His failure to utilize this principle of Mission Command led to men being unaware of the route they were on. The men were also unaware of the rest spots that could have been utilized in between movements. This caused delays in solving problems that might have otherwise been anticipated. While Knox developed unit

²⁹¹ Google Maps, accessed 26 March 2015, <https://www.google.com/maps/dir/Saratoga,+NY/Halfmoon,+NY/@42.956909,-73.7279398,12z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1s0x89de3aabc3b0a4e7:0x4d59251015c9675a!2m2!1d-73.6300729!2d43.0448483!1m5!1m1!1s0x89de16c8e97410bf:0xfc44445fdccb043d!2m2!1d-73.7242486!2d42.8690107!3e0>.

²⁹² Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 2-22.

cohesion and trust within his team, his planning was inadequate and his subordinates—exhibiting trust in him—failed to consider this as a possible weakness. Knox could have better set his men up for success by issuing them a mission order for the expedition.

Accept Prudent Risk

It has been established that the entire expedition was inherently risky. Extreme snowfall, difficult terrain, time constraints, and distance all added to the danger and difficulty. This subsection will examine Knox’s demonstration of accepting prudent risk when Knox abandoned the 18 pounder for the safety of his men. Mission Command doctrine defines prudent risk as the deliberate exposure to potential injury or loss when the commander determines the outcome in terms of mission accomplishment is worth the cost.²⁹³ Commanders focus on the accomplishment of the mission, and not just preventing defeat.²⁹⁴ Accepting prudent risk to the mission is not gambling. Prudent risk is mitigated by making every effort available to lower the overall potential loss. Commanders ensure an open dialog is established with the subordinates to ensure all aspects of the risk have been communicated.

Accepting risk in uncertainty is one of the key attributes of this principle.²⁹⁵ Prudent Risk is the exposure to possible loss when a commander decides to place his forces in a vulnerable position to better achieve a goal.²⁹⁶ Commanders cannot be so

²⁹³ Ibid., 2-24.

²⁹⁴ Ibid., 2-25.

²⁹⁵ Ibid., 2-24.

²⁹⁶ Ibid., 2-25.

worried about losing that they do not take calculated risks to achieve victory. Knox accepted this loss in favor for accomplishing the overall goal.

Accepting prudent risk was demonstrated when the 18 pounder was abandoned in the Mohawk River. This was done so the expedition could reach Albany in an expedient manner. With the expedition being snowbound in a forest, they quickly needed to receive medical attention and rest from the ordeal.²⁹⁷ Although the expedition only carried thirteen heavy cannons back to Cambridge, Knox made the decision to abandon one of them that had fallen through the icy waters of the Mohawk River. He accepted the prudent risk to the mission of retrieving the guns for Washington in favor for the welfare of his men.

Each and every cannon was critical to the Colonial cause. Most of the cannons in Fort Ticonderoga were in disrepair. Henry was only able to obtain thirteen heavy artillery pieces while the remaining cannons and mortars were of smaller variety.²⁹⁸ These made the heavy cannons critical assets to the success of the operation. If a 4½ inch bore mortar fell through the ice, it would not have had as much of an impact to the mission. Knox had to prevent the additional loss of the heavy guns. During the movement across Lake George, an 18 pounder was retrieved and an effort made to repair the vessel.²⁹⁹ Knox also went through the effort to retrieve a cannon which fell in the frozen Hudson River on the

²⁹⁷ Drew, 134.

²⁹⁸ Christopher Ward, *The War of the Revolution* (New York, Skyhorse Publishing, 2011), 123.

²⁹⁹ Reit, 46.

6th of January when it caused a delay, yet safer than retrieving the Mohawk cannon.³⁰⁰ This demonstrated that Knox weighed risk with benefit and the mission when deciding whether to retrieve the fallen cannon. During the Mohawk River incident, his men desperately needed to reach Albany for medical attention. Knox made the decision to accept prudent risk to the mission by abandoning the cannon.

Doctrinal Correlation Conclusion

The historical evidence during the Noble Train of Artillery expedition reveals that the principles of Mission Command are based from an enduring foundation. The principles also show their validation in leading to successful mission accomplishment. The historical evidence indicates these principles can assist leaders in the successful accomplishment of tasks. Historically looking into this 45 day mission during the American Revolutionary War demonstrated that when the Mission Command principles are utilized together they work. It is important to understand that when the Mission Command premises were utilized, they led to the successful accomplishment of a mission. These are enduring principles, which can work in any situation a leader finds himself. When not used, as demonstrated in the expedition, they often led to confusion and false assumptions being made. These principles show their success when all six are utilized effectively. Table 6 summarizes the Mission Command principles and the extent to which Knox employed them during his operation.

³⁰⁰ Drew, 134.

Table 6. Mission Command Utilization Chart

Principle of Mission Command	Utilization	Historical Evidence
Cohesive Teams	High	Trust was prevalent with William on Lake George and in the blizzard, decentralized approach in movement, with the teamsters in the Berkshires.
Shared Understanding	Low	Men lacked awareness of overall journey, stranded in snowstorm 10 hours after leaving Saratoga.
Commander's Intent	High	Delivered intent successfully to Schuyler and Becker on the mission, in the formation the movement at Fort George, and Brown to carry him remaining journey.
Disciplined Initiative	Medium	Without being told, hired boatmen, and drilled holes in ice
Use of Mission Orders	Low	No order, no map, no written guidance. Lack of awareness developed. Linked to lack of Shared Understanding.
Accepting Prudent Risk	Medium	Abandoning the 18 pounder, 1 of 13 heavy pieces to mission; Retrieving lost pieces when risk to men and mission was assessed as acceptable and prudent.

Source: Created by author.

This expedition revealed how important it was to have cohesive teams with people who trust one another. Cohesive teams are valuable when times get difficult during an operation. It is easy to solve little problems and accomplish minor tasks even if a unit has no cohesiveness. When people are exposed to danger, a cohesive team stands strong where weak ones fall apart. William was more than just a stand-in for his older brother; he was a man who was trusted to lead soldiers when their lives were on the line. Henry placed him in charge multiple times during this movement, not out of convenience

but because William could be trusted to lead the men. With the movement being stretched over five miles long, Henry had to trust his men to operate in the decentralized formation. Without this trust, the expedition would have been formed into an inadequate formation, making on the spot decision making impossible. If the teamsters ever thought Knox did not care about their livelihood, there is no doubt they would have walked out when the movement became dangerous in the Berkshires. This historical example reveals just how critical building a cohesive team is.

When there is no open collaboration or dialog, organizations will assume away too many problems. The men of the convoy had no ability to communicate their concerns or past experience of the region's weather. Henry also did not open a dialog with the teamsters when he led the convoy out of Saratoga after it has snowed heavily for a consecutive two days. Although everyone knew the goal, no one seemed to understand what was occurring on a daily basis, or had any input in its execution. This failure on Knox's part reveals that open communication can assist in a common understanding to develop. This understanding allows all individuals to know all aspects of the mission. This reveals that every organization needs to have dialog channels to communicate. These channels go from the leader down, and from the bottom on up.

Providing a clear purpose, key tasks, and end state to subordinates allows them to best execute a plan with creativity and best held practices. Knox had no idea how to transport cannons over long distances; he had never left the city of Boston. He gave his intent to Becker, and he successfully executed it. We saw this successful practice again in Fort George when the intent was given on the formation of the movement. Henry arrived, issued his intent, and allowed the teamsters to execute. Knox seemed to have mastered

this principle because he used it again when he hired Brown in Springfield. He told him what he needed, and allowed Brown to execute. Being clear and concise are the key attributes that bring this principle into successful use. This Mission Command aspect may have been published in 2012, but it was utilized to almost perfection in 1776 allowing a major military victory to be achieved. Intent allows subordinates to execute the mission within the known parameters.

“When in the absence of orders, find something and kill it.”³⁰¹ Initiative is a trait that can propel organizations to success when the situation is not clear. This action needs to be replicated more in all organizations. Subordinates should take the lead on tasks without being told to execute. This enduring principle exhibited its success in 1776 and it still holds true today. When Knox was faced with adversity, he found a way to accomplish the mission. When the challenge of Lake George confounded him, he did not write back to Washington asking for help; he took action. He hired experienced boatmen and over 45 boats to transport his team to Fort Ticonderoga. When the Mohawk and Hudson Rivers seemed too great an obstacle, he took the initiative and found a way to cross the rivers. He did not fold under pressure; he took action.

The lack of a written order by Knox indicates how valuable it could have been if utilized. If the men had a map of the region when they left Saratoga in the snow, they would have realized Albany was 22 miles away. Although there were no five paragraph formats available in 1776, some version of a written order could have helped the mission even if the majority of the force was illiterate. It is this lack of a written order and the

³⁰¹ Military Quotes, “Erwin Rommel,” accessed 12 May 2015, <http://www.military-quotes.com/erwin-rommel.htm>.

confusion that follows that reveals its value to future operations. Written orders, especially in the military, are critical to disseminate guidance and details to an operation. It is the staff's mission to provide as much information and details to subordinate units to assist them in the execution of a plan. The process of formulating and disseminating a written order can help commanders and staffs identify gaps in planning or understanding. This form of communication allows information and details to be captured in a common forum for future use and reference. It was this lack of a reference that hurt the expedition. This historical example demonstrated how important it could have been, if used properly.

Leaders cannot be afraid to fail. Risks, as long as they are calculated and mitigated, can reap big rewards. Knox abandoned one of the 13 heavy cannons so he could help his troops get to shelter. He made a judgement call and accepted the risk to the end state of the mission. On the other hand, he accepted risk prudently when recovering the cannons lost in shallow water despite the delay in achieving the end state as he described to General Washington. Leaders in all formations need to be able to accept a certain level of risk. This historical example provided another clear demonstration of the usage of this principle and how it can positively benefit a unit.

This chapter provided a breakdown of all six principles of Mission Command, and indicated their execution or failure to be utilized. Evidence was provided that revealed how Knox could have improved his movement of the guns by better utilizing some principles of Mission Command. Although Knox did not lead a flawless journey, he still successfully delivered the cannons to Washington by leading his men. Chapter 5 will provide an interpretation of the findings found in the analysis and implications for current Army forces.

CHAPTER 5

CONCLUSION

The purpose of this chapter is to interpret the findings of the thesis. It is structured into the following sections: an assessment of the utilization of Mission Command, the interpretation of the findings, and finally the thesis conclusion. The assessment will analyze the effectiveness of Mission Command indicating how Knox achieved success by intuitively utilizing its principles. This will verify the merit of Mission Command when these actions get tied into today's doctrine, demonstrating these premises work. The interpretation will examine the findings obtained from the historical evidence. This will include the indications that intent and disciplined initiative complement each other. Additional historical comparisons will be recommended in the thesis conclusion, giving further study into the correlation of Mission Command using previous examples. These historical case studies can help determine if Mission Command is a western way of war or are exhibited in other cultures. The lessons learned from the expedition will be examined, revealing how Knox improved on the weaknesses he demonstrated. Finally, this thesis will conclude with a discussion about how these principles work and how they are relevant to today's military leader.

Assessment of the Utilization of Mission Command

This thesis assessed Knox's utilization of Mission Command during the expedition and determined when they are utilized; they assist in the accomplishment of a mission. The knowledge of this philosophy can benefit leaders of today by assisting in their ability to effectively lead others. Knox's expedition was the tool in which this thesis

assessed the effectiveness of Mission Command. It was determined when Knox displayed a principle of Mission Command, success was achieved. When a principle was ignored, the expedition was placed in jeopardy. This correlation demonstrated how effective the principles can be in successful mission accomplishment.

As defined in the ADRP 6-0, Knox successfully exhibited four of the six principles of Mission Command. The ADRP 6-0 was essential in ensuring an accurate definition of each principle was first established. Once the actions from Knox were successfully classified into a principle of Mission Command, this thesis was able to then assess the utilization of Mission Command. The actions taken by Knox were successfully classified into the principles of Mission Command doctrine.

Present day leaders can use the ideas incorporated inside this thesis to improve the leadership found in their formations. Empowering subordinates to act independently in the successful accomplishment of a goal is a trait which fosters success. Mission Command defined in ADRP 6-0 states that it is the “exercise of authority and direction by the commander using mission orders to enable disciplined initiative with the commander’s intent to empower agile and adaptive leaders.”³⁰² Knox demonstrated how enabling his subordinates to act allowed them to achieve greater success.³⁰³ The expedition fared much better when the principles were utilized. This is not to say Mission Command is a philosophy which leads to success every time it is practiced. However, when used in accordance with its principles, leaders will have a greater chance for

³⁰² Headquarters, Department of the Army, ADRP 6-0, *Mission Command*, 1-4.

³⁰³ This thesis also meets the criteria it established by utilizing historical evidence in line with current doctrine definitions.

success. This premise was reinforced by Knox's actions during the mission. The philosophy of Mission Command should be studied and utilized by today's leaders to better improve their ability to lead their organizations.

Knox's expedition provided multiple examples of Mission Command principles in action. This indicated that Knox, without knowing it, was following the basic fundamentals of leadership. My assessment revealed that the principles of Mission Command are all-encompassing. They cover all major avenues of leadership: communication, trust, decisiveness, creativity, risk mitigation, clarity, and team building. These examples demonstrated that Knox's actions seemed like natural leadership.

Knox intuitively utilized the principles of Mission Command without any knowledge of the philosophy itself. He seemed to have acted upon common sense and basic people skills. Even without being formally educated, Knox seemed to have an ability to achieve success with his team. Knox was self-taught, and seemed to develop his leadership ability from natural tendencies. This success can be tied to his intuitive practice of Mission Command as shown in chapter 4. They are time tested proven premises that can work in the future. The fact that Knox used its concepts and principles cannot be ignored. Mission Command is not anything new; they are proven enduring ideas.

Interpretation of Findings

Knox's failure to utilize any written mission order needs to be examined further in these findings. Had Knox utilized any form of a mission order, he would likely have achieved a higher degree of success during the operation. Although Knox did foster a disciplined initiative to be created through his verbal orders, he did not disseminate any

written documents to assist his men in detailed planning.³⁰⁴ At the very least, Knox could have provided a map to his men to satisfy utilizing mission orders. By disseminating a map with the route and cities along the way, the teamsters could have realized it was not a good idea to continue hauling the cannons to Halfmoon. The city was sixteen miles away, requiring travel through a growing snowstorm to reach it.³⁰⁵ His men understood his intent and acted with a disciplined initiative. This demonstrated the danger of not taking into consideration a principle of Mission Command.

The findings indicated there was a linkage between Knox's failure to create a shared understanding, and a lack of mission orders. He seems to have struggled with disseminating details about the mission, and assumed too many things. Maybe instead of writing to his wife Lucy several times during the expedition, he could have written guidance or mission details on an order or a contract, and given it to Becker to follow. Henry could have allowed a better collaborative effort to take place within his team, fostering better communication. This finding is critical to understand the largest flaw in the expedition, Knox's inability to foster a collaborative environment.

The findings indicated that success occurs when you provide a clear intent up front and allow your subordinates to take the initiative on their own. These two principles of Mission Command—intent and disciplined initiative—complement each other. When you provide a clear concise purpose, key tasks, and end state, subordinates are

³⁰⁴ Headquarters, Department of the Army, ADRP 6-0, *Mission Command*,

³⁰⁵ Google Maps, "Saratoga, New York to Halfmoon, New York," accessed 26 March 2015, <https://www.google.com/maps/dir/Saratoga,+NY/Halfmoon,+NY/@42.956909,-73.7279398,12z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1s0x89de3aabc3b0a4e7:0x4d59251015c9675a!2m2!1d-73.6300729!2d43.0448483!1m5!1m1!1s0x89de16c8e97410bf:0xfc44445fdccb043d!2m2!1d-73.7242486!2d42.8690107!3e0>.

empowered to execute the best means necessary. Brown and Becker thrived when they were allowed to utilize creative ways, consistent with Knox's intent, to exercise disciplined initiative in accomplishing tasks. They acted within the provided guidelines and took the initiative to achieve the desired end result. These actions exhibited during the expedition form the foundational premise of Mission Command. Henry demonstrated how important seizing the initiative can be to mission accomplishment. If the expedition stumbled at the thinly iced rivers, the mission would have been a failure. Knox was able to provide a clear intent and foster a disciplined initiative to achieve success.

Thesis Conclusion

Mission Command has relevant principles grounded in historical examples that can assist the modern military leader. The true purpose of this thesis was to demonstrate how Henry Knox utilized the principles and philosophy of Mission Command during his expedition in 1775 and 1776. This thesis used direct historical examples taken from Henry Knox's "Noble Train of Artillery" expedition that retrieved and transported 58 cannons from Fort Ticonderoga over 300 miles to Boston.³⁰⁶ The logistics of transporting these pieces in the dead of winter over small snow covered mountain trails, two major rivers, two lakes, and a minor mountain range in the Appalachian Mountains was no small accomplishment. A cohesive team was built based off of mutual trust which helped Knox accomplish this feat. The expedition would consist of over 40 militiamen, and 90 civilian teamsters responsible for 80 yokes of oxen.³⁰⁷ The difficulty of this operation

³⁰⁶ Knox, *Henry Knox's Diary*, 13 January 1776.

³⁰⁷ Drew, 157.

mandated decentralized execution. Knox could not be everywhere, so his orders needed to be clear and concise and the execution of the operation decentralized if his unorthodox unit were to achieve success. At its longest length, Knox's expedition would stretch over five miles long and be organized into five separate movement serials.³⁰⁸ Knox's leadership helped guide this achievement through, bringing this movement at one point from the brink of disaster. Knox would create a shared understanding of the operation with people like his younger brother William and the Northern New York commander Major General Philip Schuyler, who both played essential roles in the accomplishment of this mission. John Becker Sr. also played a critical role as the lead teamster of over 90 men and 160 oxen that helped Knox transport the cannons down the Hudson into the Berkshire Mountains of western Massachusetts. The move demonstrated what an adaptable leader Knox was, even though he was inexperienced when it came to military logistical operations, and depended on the decentralized execution of his team to achieve success.

Additional studies can be done to further examine Mission Command's historical evidence. The methodology of this thesis could be replicated by using other historical examples to determine if the principles of Mission Command led to its success or failure. The study was restricted to just a 45-day period of tactical movement without enemy contact; future studies should consider battles or campaigns. For example, an analysis could be conducted on the battle of Gettysburg examining how the utilization or failure to adhere to the principles of Mission Command allowed the Union forces to prevail. The lack of a cohesive team between General Richard E. Lee and James Longstreet could

³⁰⁸ Knox, *Henry Knox's Diary*, 12 December 1775.

provide very interesting findings if examined. The German eastern front during World War II could also provide very compelling evidence into the successful utilization of Mission Command. This scenario could reveal interesting information being that the German army utilized *Auftragstaktik*, which heavily influenced Mission Command. A historical case study could also be done outside the western culture, such as the battle of Kabul in 1504.³⁰⁹ The Mughal Emperor Babur could be the focal point of this future study determining if the practice of the Mission Command premises were exhibited outside of western culture. Regardless, an additional historical review would confirm the conclusions which were discovered: that the principles of Mission Command when utilized prevail and the failure to adhere to them places the mission in jeopardy. Mission Command is not a flawless philosophy. These possible historical case studies are worth the effort to determine if the principles of Mission Command are valid.

Henry Knox learned from his weakness of developing a shared understanding to become one of our nation's greatest military leaders. This growth from a weakness revealed how great a leader he was. Knox would go on to be Washington's Chief of Artillery and would continue to lead soldiers throughout the war.³¹⁰ After Washington's forces successfully seized Dorchester Heights with the newly acquired cannons, the British evacuated the city of Boston. This gave the Colonial forces a much needed victory and reinforced the trust Washington placed in Knox. This trust allowed a positive collaborative environment to take place between Washington and Knox where an

³⁰⁹ Seth G. Jones, *In the Graveyard of Empires* (New York: W.W. Norton and Company, 2009), 313.

³¹⁰ McCullough, 270.

improved common understanding of the war was demonstrated. In December of 1776, Knox revealed he had a firm grasp of a common understanding, as he campaigned through New Jersey.³¹¹ At the Battle of Princeton, Knox demonstrated he understood a shared understanding of Washington's plan and a disciplined initiative when he bombarded previously unknown Hessian strongpoints, which were along the avenue of advance of Washington's forces.³¹² Henry had showed a weakness in creating a shared understanding during the expedition but learned from those mistakes to become one of our greatest military leaders.

After the American Revolutionary War, Knox developed a strong relationship with Washington and his understanding of the situations that faced America. Henry Knox became the nation's first Secretary of War in 1789.³¹³ During Washington's first term of office, Knox displayed he had the same common operating picture with the President when he downsized the total number of federal troops to save cost.³¹⁴ This mutual trust displayed between Washington and Knox on post-war military forces was one of the main reasons he was given the cabinet level position. Knox also acted within Washington's intent when he advocated the creation of a military academy to be established at West Point.³¹⁵ Knox would ultimately publish several hundred written

³¹¹ Ibid., 274.

³¹² Ibid., 275.

³¹³ Puls, 190.

³¹⁴ Samuel P. Huntington, *The Soldier and the State* (London: Belknap Press, 1959), 143.

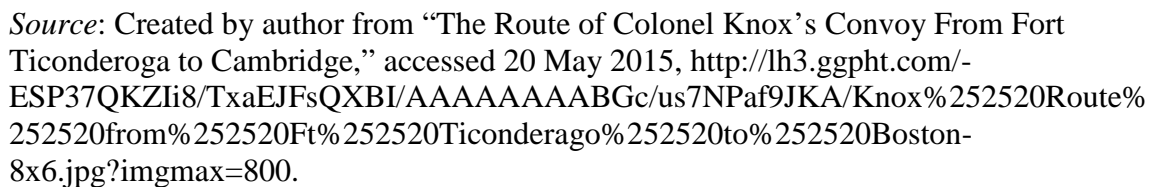
³¹⁵ Puls, 252.

orders during his time in office to his fellow cabinet members.³¹⁶ This confirmed he learned from the lack of utilizing mission orders he displayed during the expedition. These historical examples substantiate Knox developed and learned from his weaknesses after the expedition to become one of our nation's first military leaders.

The principles of Mission Command were proven to be effective methods in leadership. Henry Knox achieved success when he intuitively utilized the principles of Mission Command during his "Noble Train of Artillery" expedition. This evidence validated the principles of Mission Command work. This thesis laid out the methodology of how the expedition was going to provide the data to be analyzed. This data provided key indications that when an action was taken that met the criteria of matching a principle of Mission Command, success was obtained. When an action was taken that did not meet the criteria, the expedition was placed in jeopardy. The assessment revealed the Mission Command philosophy is based on time tested methods of successful mission accomplishment. The analysis supported that the principles are enduring practices that can assist any leader in accomplishing a task. Henry Knox demonstrated the principles of Mission Command philosophy during his successful operation in 1775 and 1776 to move 58 cannons from Fort Ticonderoga to Cambridge confirming these principles work.

³¹⁶ Ibid., 232.

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THE NOBLE TRAIN OF ARTILLERY EXPEDITION



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